



APRIL 2023

Soil Wealth
NURTURING CROPS



**Integrated
Crop Protection**
PROTECTING CROPS

BIOLOGICAL PRODUCTS DATABASE

BIOLOGICAL PRODUCTS DATABASE - BY SOURCE & TRADE NAME

About this database and how to use it - This Biological Product Database is a tool for growers that will assist with navigating the array of 'biological' products currently available to their farming business. We have compiled the information in response to questions from growers about available products. (Webinar on biopesticides available [here](#).)

Definition - 'Biological' products (also called 'biologicals') are defined as those that are derived from living organisms (plants, animals, microorganisms, fungi). The term encompasses a diverse range of products, and this is a fast-growing segment of agricultural inputs (definition from www.croplife.org).

This database includes a column that indicates whether products have APVMA registration (Australian Pesticides and Veterinary Medicines Authority). Registered products are known as 'Biological Crop Protection' products. If a product is used for crop protection (i.e., used as a biopesticide) it must be registered for use in the crop and situation it is applied in. Contact the APVMA or Hort Innovation for more information. For products not registered with the APVMA, potential effects suggested by manufacturers are NOT efficacy claims and data on potential for phytotoxicity or residues do not exist.

How was the database developed? We have gathered information primarily from the manufacturers, via their websites and/or their representatives. We have attempted to strip away any confusion by laying out the bare bones of each product. We will include references to independent research in the database as the project progresses and we receive information from independent research.

The database is a work in progress - The database is a work in progress and is not comprehensive. We have not carried out reviews of science-based literature for each product. If a column or cell is blank, it does not mean that there is no information, just that we have not found it yet (this is particularly the case for independent trial information). The database will be updated and published regularly as information becomes available.

Is anything missing? If you know of any products or trial information we have failed to include, or details that are inaccurate or incomplete, please either complete the spreadsheet at the bottom of this webpage (www.soilwealth.com.au/resources/global-scan-and-reviews/biological-products-database/) and/or get in touch - rm@rmcg.com.au.

DISCLAIMER: VERY IMPORTANT - This document does not include or offer advice of any kind. It is a collection of publicly available information. Very few products have been registered by the APVMA, a process that entails rigorous independent testing of efficacy, residues, phytotoxicity and potential effects on flora, fauna and people. We do not endorse any products and the database is not an exhaustive list. To the best of our knowledge the information is correct at the time of publishing. Always refer to product label for Directions for Use.



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These explanations of 'Source' and 'Product Type' have been developed to provide clarity and aid with interpretation of the Biological Products Database. Some products do not fit neatly within these, where this is the case, the aim has been to provide the best fit for the product details available.

BIOLOGICAL PRODUCTS DATABASE - EXPLANATIONS - SOURCE

microbial	<p>Microbial products are products derived from various small, simple organisms. Microbial products may contain the organisms themselves and/or the metabolites they produce. Microbial products generally contain or are derived from four different subcategories:</p> <ul style="list-style-type: none"> • Bacteria - may prevent plant diseases by outcompeting plant pathogens in the rhizosphere, producing anti-fungal compounds, and by promoting plant and root growth. Examples of beneficial bacteria include <i>Bacillus subtilis</i>, <i>Bacillus pumilus</i>, <i>Pseudomonas</i> spp., and <i>Streptomyces</i> spp. • Protozoa - while most protozoa feed on bacteria and decaying organic matter, a wide range of protozoan species are insect parasites. For example, the protozoan <i>Nosema locustae</i> is known to be a natural biocontrol agent of many grasshopper species. • Viruses - can be very specific to particular insects or arthropods. For example, certain viruses can kill only one or a few species of Lepidoptera larvae (caterpillars), making them good candidates for management of crop pests with minimal off-target effects. The granulovirus of the codling moth (<i>Cydia pomonella</i>), or CpGV, is a good example of a commercially successful viral insecticide. • Yeasts - may work through competition with pathogens, e.g. for nutrients. For example, <i>Candida oleophila</i> Strain O, has been developed as an effective biocontrol for post-harvest fruit rots. It is applied to apples and pears after harvest — but before storage — to control particular fungal pathogens causing post-harvest decay such as grey mould (<i>Botrytis cinerea</i>) and blue mould (<i>Penicillium expansum</i>). <i>Candida oleophila</i> Strain O works primarily through competition for nutrients and pre-colonisation of plant wound sites.
plant extract	<p>Water- or solvent-based plant extracts or essential oils (EOs) can contain valuable natural products, many of which can be used safely in pest and disease control due to their ability to degrade quickly. An important consideration is that EOs and plant extracts are biologically unstable as they are easily destroyed by environmental pH, oxygen, light, and moderate temperatures. EOs exhibit poor aqueous solubility and high volatility in general. Many extracts or EO biopesticides are often used without deeply understanding their mode of action. Water- or solvent-based extracts and EOs can improve plant resistance to biotic and abiotic stressors, and can be involved in metabolic processes that control plant tolerance to these stressors.</p>
amino acids	<p>Amino acid products are manufactured either by hydrolysis or enzymatic treatment of animal or plant protein feedstock. Amino acids are readily absorbed, transported, and utilised as a source of nitrogen and carbon for plants. This saves the energy expended by the plant to reduce organic matter, synthetic nitrates and ammonia into amino acids. Some amino acids are efficient metal ion chelators which can help with metal ion nutrient uptake and help protect plants from toxic levels of metal ions.</p> <p>Amino acids also function as biostimulants for plants, playing important roles in enhancing plant productivity, especially under abiotic and biotic stress conditions. Refer to https://www.growersecret.com/amino-acids-as-biostimulants</p>



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BIOLOGICAL PRODUCTS DATABASE - EXPLANATIONS - SOURCE (CONTINUED)

seaweed extract	<p>An extract produced from seaweed. It is usually a concentrated organic product (usually liquid, but can be soluble granules) that can be diluted and applied to seedlings and transplants as well as larger plants – see comments below for the specific functions of humic and fulvic acids.</p> <p>Nutrient content: Seaweed is a rich source of many essential plant nutrients such as nitrogen, phosphorus, potassium, and trace elements like iodine, zinc, and iron which can improve soil fertility.</p> <p>Microbial growth: Seaweed can act as a source of carbon and energy for microorganisms in the soil, stimulating their growth and activity.</p> <p>Root growth: Some studies suggest that seaweed extracts can have a positive impact on root growth and root health, which can improve overall plant growth and vigour.</p> <p>Disease suppression: The compounds present in seaweed can have an antimicrobial effect, inhibiting the growth of certain pathogens and helping to suppress plant diseases.</p> <p>Alginates: Seaweed contains alginates, a complex carbohydrate that can form gels in soil, which can improve soil structure and water-holding capacity, making it more conducive to healthy microbial growth.</p> <p>Hormones: Seaweed contains growth hormones like cytokinins and auxins that can promote root growth, cell division and elongation, which can help plants to better cope with environmental stress.</p>
fish extract	<p>Fish extract (also emulsion, or fish fertiliser) for plants, is a fast-acting, organic liquid product made from the by-products of the fishing and aquaculture industries. It is rich in nitrogen, phosphorus, and potassium, plus trace elements such as calcium, magnesium, sulphur, chlorine, and sodium.</p>
seaweed/fish mix	<p>A mix of seaweed and fish extracts described above.</p>



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BIOLOGICAL PRODUCTS DATABASE - EXPLANATIONS - SOURCE (CONTINUED)

humic/fulvic acid

When plants and animals are decomposed by bacteria, humic substances are released and are found naturally in soils. Humic substances are composed of: relatively small fulvic acids that dissolve in both acid and alkaline environments, larger humic acids that are soluble under alkaline conditions, and very large humins that are insoluble. Humic acids can be 100 000 times larger than fulvic acids. Humic acids used in soil amendments are often extracted from brown coal.

Humic acid

Humic acids can aid with nutrient cycling, microbial growth and disease suppression through the following mechanisms:

Nutrient cycling: Humic acids can help to make nutrients such as nitrogen and phosphorus more available to plants by chelating or complexing them, making them more accessible to plant roots.

Microbial growth: Humic acids can act as a source of carbon and energy for microorganisms in the soil, stimulating their growth and activity.

Disease suppression: Humic acids can also have an antimicrobial effect, inhibiting the growth of certain pathogens and helping to suppress plant diseases.

Fulvic acid

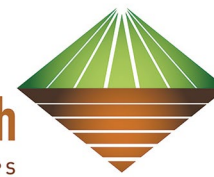
Fulvic acid may stimulate root growth and affect root function to exude organic acids that can lead to increased nutrient uptake.

Fulvic acid can also help to increase plant nutrient uptake by chelating (binding) minerals and other nutrients. Chelated minerals are easier for the plant to absorb and use.



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BIOLOGICAL PRODUCTS DATABASE

BIOLOGICAL PRODUCTS DATABASE - EXPLANATIONS - PRODUCT TYPES

fungicide	Product to control the growth of fungi and fungal spores. They can be made from a variety of chemical compounds including synthetic chemicals, botanicals, and microbial pesticides.
herbicide	Product to kill or control weeds. They can be made from a variety of chemical compounds, including synthetic chemicals, botanicals, and microbial pesticides. Some herbicides target specific weeds or groups of weed (e.g. grasses), while others have a broader spectrum of activity.
insecticide	Product to kill or control a population of insects. They can be made from a variety of chemical compounds, including synthetic chemicals, botanicals, and microbial pesticides. Some insecticides target specific insects, while others have a broader spectrum of activity.
miticide	Product to kill or control a population of mites. They can be made from a variety of chemical compounds, including synthetic chemicals, botanicals, and microbial pesticides.
pest deterrent	<p>A plant pest deterrent is a substance or method used to prevent or discourage the presence of pests. These pests can include insects, mites, nematodes, and other animals that feed on plants or cause damage to the foliage, roots, or fruit of plants. Plant pest deterrents can include a variety of chemical and non-chemical methods, such as:</p> <ul style="list-style-type: none"> • Biological controls, such as the use of predators or pathogens that feed on or kill pests • Botanical repellents, such as certain essential oils or plant extracts that have been shown to repel certain pests and also • Physical barriers, such as screens or nets, which can physically prevent pests from reaching the plants.
disease suppressant	<p>A plant disease suppressant is a substance or method that is used to prevent or reduce the incidence or severity of plant diseases. These diseases can be caused by a variety of pathogens, such as bacteria, fungi, viruses, and nematodes. Disease suppressants can include a variety of chemical and non-chemical methods, such as:</p> <ol style="list-style-type: none"> 1. Biological controls: The use of beneficial microorganisms such as bacteria or fungi that can outcompete or inhibit the growth of pathogens in the soil or on the plant surface. 2. Botanical extracts and essential oils: Some plant extracts and essential oils have been found to have antimicrobial properties, which can help to suppress the growth of pathogens. <p>Products should be supported via:</p> <ol style="list-style-type: none"> 1. Crop rotation: rotating crops can help to reduce the build-up of pathogens in the soil, which can help to reduce the incidence of diseases. 2. Cultural controls: Sanitation practices, such as removing and destroying infected plant debris, can help to reduce the incidence of diseases. 3. Nutrient management: Proper nutrition can help plants to better cope with disease stress and improve overall plant health. 4. Environmental control: Manipulating the environment by controlling temperature, humidity, light intensity can help plants to better cope with pathogens.



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BIOLOGICAL PRODUCTS DATABASE - EXPLANATIONS - PRODUCT TYPES (CONTINUED)

stress resistance	<p>There are several ways to increase stress resistance in plants; the following may be used in products:</p> <ol style="list-style-type: none"> 1. Microorganisms: Some microorganisms can promote plant growth and stress tolerance by improving nutrient uptake, protecting against pathogens, and producing plant growth-promoting compounds. 2. Hormonal treatments: Some phytohormones such as cytokinins and gibberellins have been shown to increase stress tolerance in plants by promoting cell division and elongation. <p>However, sole reliance on products will not be successful. Other methods that should be used at the same time are:</p> <ol style="list-style-type: none"> 1. Variety selection (breeding): Selecting and breeding plants that are naturally more tolerant to stress conditions such as drought, heat, cold, and disease. 2. Proper nutrition: Providing plants with adequate and balanced nutrition can help them to better cope with stress. 3. Water management: Proper irrigation and drainage can help plants to better tolerate drought stress and prevent effects of waterlogging. 4. Mulching: Mulching, e.g. planting into cover crop residues, can help to reduce soil moisture loss, moderate soil temperature and suppress weed growth, which can help plants to better tolerate stress conditions. 5. Crop rotation: rotating crops can help to reduce the build-up of pests and diseases, as well as improve soil health, which can help plants to better tolerate stress conditions. 6. Environmental control: Manipulating the environment by controlling temperature, humidity, light intensity can help plants to better tolerate stress conditions.
crop nutrition product	<p>Crop nutrition products can include a variety of chemical and organic compounds that provide plants with macronutrients and/or micronutrients (such as zinc, copper, and iron). These products can be applied to soil or foliage in various forms such as granular, liquid, and foliar sprays.</p>
growth stimulant/regulator	<p>A plant growth stimulant is a substance or a microorganism that when applied to plants, can improve their growth and development. Plant growth stimulants can be in the form of hormones, enzymes, minerals, or microorganisms that are applied to the soil or the foliage of plants. They can be used to improve crop yields, and/or increase the tolerance of plants to environmental stress. Some examples of plant growth stimulants include auxins, cytokinins, gibberellins (which are produced by plants) or humic acids which naturally occur in soils.</p>
soil biology stimulant	<p>A soil biology stimulant is a substance that is used to enhance the diversity and activity of microorganisms in the soil, which can improve soil health and plant growth. Soil biology stimulants can include a variety of microorganisms such as bacteria, fungi, and protozoa, as well as organic compounds such as humic acids (see 'Source' definitions above) and seaweed extracts. The microorganisms help to break down organic matter, improve nutrient cycling, and promote root growth, leading to healthier and more productive plants. Soil biology stimulants can be applied through soil drench, foliar spray or seed coating.</p>
wetting agent	<p>A chemical added to reduce the surface tension of a liquid and allow it to spread more easily and evenly over plant surfaces (reduces beading). Also known as a surfactant.</p>

Biological Products Database - by Product Source and Trade Name - April 2023

Trade Name	Source	Registered Product Type (APVMA Registered)	Product type Has been used as / for (not registered)	Ingredient(s)		Registered Use (APVMA Registered Products)	Use Has been used as / for (not registered)2	Crop	Manufacturer	Formulation	Australian Certified Organic	pH	Analysis	Trial Information
				Active Ingredient(s) (APVMA Registered Products)	Main ingredient(s) of non registered products									
Amifol K	amino acids	not registered	crop nutrition	not registered	Amino Acids + Potassium	Not Registered	Increase fruit fill & quality	all crops	Rovensa ANZ (Tradecorp)	Liquid	No	11.2	Potassium 38.6%, L-α free amino acids 7.5% (all w/v)	https://tradecorpanz.com.au/7s-amifol-k&x=0&y=0
Amino Boss	amino acids	not registered	growth stimulant/ regulator	not registered	50% (635g/L) Amino Acids, 26% Organic Nitrogen, 8% Organic Carbon.	not registered	crop health	all crops	Sipcam (Agricrop)	liquid	Yes	6 to 7	Alanine 5.4%, Arginine 0.5%, Aspartic acid 1.6%, Glutamic acid 5.2%, Glycine 12%, Hydroxylysine 2.1%, Hydroxyproline 3.5%, Histidine 0.4%, Isoleucine 0.9%, Leucine 1.8%, Lysine 1.7%, Methionine 0.7%, Ornithine 2.5%, Phenylalanine 1.2%, Proline 6.9%, Serine 0.3%, Threonine 0.5%, Tyrosine 1.2%, Valine 1.6%, Carbon 26%, Nitrogen 8%	-
Amino-max	amino acids	not registered	crop nutrition	not registered	amino acids	not registered	crop health	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	5 to 6	Nitrogen 5.78%, Amino acids 40%, Free amino acids 28%	-
Amino-Tech	amino acids	not registered	crop nutrition	not registered	amino acids	not registered	crop health	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	3.5 to 5	Nitrogen 2.6%, Phosphorous 0.36%, Potassium 0.16%, Sulphur 3950mg/L, Calcium 1040mg/L, Magnesium 94mg/L, Iron 9mg/L, Zinc 7mg/L, Boron 1mg/L	-
Aton Mo	amino acids	not registered	stress resistance	not registered	Amino Acids + Molybdenum	Not Registered	Reduce abiotic stress and increase Mo absorption to promote Nitrogen use efficiency	all crops	Rovensa ANZ (Tradecorp)	Liquid	No	3.9	Molybdenum 7.7%, L-α free amino acids 6.4%, Phosphorus 6.4%, Total Nitrogen 3.3% (all w/v)	-
Boramin Ca	amino acids	not registered	stress resistance	not registered	Amino Acids + Calcium + Boron	Not Registered	Reduce abiotic stress and increase flowering success and fruit quality	all crops	Rovensa ANZ (Tradecorp)	Liquid	No	2.8	Total Nitrogen 8.8%, Calcium 7.3%, L-α free amino acids 6.4%, Boron 0.27% (all w/v)	-
Delfan Plus	amino acids	not registered	stress resistance	not registered	Amino Acids	Not Registered	Reduce Abiotic Stress	all crops	Rovensa ANZ (Tradecorp)	Liquid	Yes	7.2	L-α free amino acids 28.8%, Total Nitrogen 10.8% (all w/v)	https://tradecorpanz.com.au/wp-content/uploads/2018/02/2017-Sweetcorn-Delfan-Plus-TCAU-ENG-v1_3-1R.pdf
Flower 'n' Fruit Maker	amino acids	not registered	growth stimulant/ regulator	not registered	50% (635g/L) Amino Acids, 26% Organic Nitrogen, 8% Organic Carbon.	not registered	crop health	all crops	Sipcam (Agricrop)	liquid	Yes	6 to 7	Alanine 5.4%, Arginine 0.5%, Aspartic acid 1.6%, Glutamic acid 5.2%, Glycine 12%, Hydroxylysine 2.1%, Hydroxyproline 3.5%, Histidine 0.4%, Isoleucine 0.9%, Leucine 1.8%, Lysine 1.7%, Methionine 0.7%, Ornithine 2.5%, Phenylalanine 1.2%, Proline 6.9%, Serine 0.3%, Threonine 0.5%, Tyrosine 1.2%, Valine 1.6%, Carbon 26%, Nitrogen 8%	-
Protifert LMW 8	amino acids	not registered	growth stimulant/ regulator	not registered	amino acids, peptides	not registered	crop health	all crops	Sipcam (Agricrop)	liquid	No	6 to 7	Protein hydrolyzates, animal 50%	-
All Star Stim	composite/blend	not registered	soil biology stimulant	not registered	polyglutamic acid from <i>Bacillus</i> ; fish skin and seaweed extracts	not registered	reduced plant stress, increased microbial activity, soil health, enhanced nutrient uptake	all crops	Seawins	liquid	SXC certified	4.0 - 6.0	Fulvic acid 5%, PGA 0.5%, amino acid 1%, seaweed polysaccharides 10%, alginic acid 3%, organic matter 15-20%	-
Balance & Grow	composite/blend	not registered	growth stimulant/ regulator	not registered	Fermented product - Microbial inoculum: fungi, bacteria, yeast and protozoans (not specified); Liquid food source containing calcium and phosphate, vitamins, minerals, proteins, enzymes, amino acids and carbohydrates (not specified).	not registered	Foliar nutrition spray to enhance vegetative growth	all crops	BioAg Pty Ltd, New South Wales	liquid	Yes	2.2	Micro-organisms (unknown g/L). All % as w/w/w: Nitrogen 0.1%, Phosphorus 1.3%, Potassium 0.4%, Sulphur 0.8%, Calcium 0.5%, Magnesium 0.03%, Sodium 0.1%	https://www.bioag.com.au/trials-demonstrations/
Bio TX500 Humus Extract	composite/blend	not registered	soil biology stimulant	not registered	Micro-organisms (not specified), humic acids, enzymes, plant hormones and minerals	not registered	Pre-plant soil conditioner/fertiliser to stimulate beneficial microbial activity in the root zone and biological processes. Also applied as foliar fertiliser.	all crops	YLAD Living Soils, New South Wales	liquid	Yes	-	not supplied	Independent 3 year trial results available with manufacturer
Bio-Hum Concentrated Fertiliser Additive	composite/blend	not registered	soil biology stimulant	not registered	Microbial inoculum: <i>Enterococcus faecalis</i> , <i>Lactobacillus</i> spp., <i>Pediococcus pentosaceus</i> , <i>Aspergillus</i> spp., <i>Saccharomyces cerevisiae</i> , <i>Bacillus subtilis</i> subspp. Humic and fulvic acids	not registered	Pre-plant soil conditioner/fertiliser additive to stimulate beneficial microbial activity in the root zone and biological processes.	all crops	Biolink 4 Plants Pty Ltd, Victoria	liquid	Yes	n/a	not supplied	-
BioFlora IsoGreen	composite/blend	not registered	soil biology stimulant	not registered	Four species of microalgae: <i>Scenedesmus quadricauda</i> , <i>S. obliquus</i> , <i>Chlorella vulgaris</i> , <i>Nannochloris atomus</i> ; Two <i>Bacillus</i> species: <i>Bacillus amyloliquefaciens</i> and <i>B. subtilis</i> ; humic and fulvic acids	not registered	enhanced soil microbial activity, soil and plant health	all vegetable crops + others	BioFlora, Queensland	liquid	Yes	8.7	Bacteria at 10 ³ CFU/mL; Microalgae at 10 ³ cells/mL; Humic acid 2%, Fulvic acid 1%	-
BioFlora Sea Isolates	composite/blend	not registered	soil biology stimulant	not registered	liquid inoculant derived from seaweed (<i>Ascophyllum nodosum</i>) containing <i>Bacillus amyloliquefaciens</i> + trace/micronutrients, plant growth hormones (auxins, cytokinins, gibberellins)	not registered	enhanced soil microbial activity, soil and plant health	all vegetable crops + others	BioFlora, Queensland	liquid	Yes	3.2	<i>Bacillus amyloliquefaciens</i> at 1 x 10 ⁶ CFU/mL; Total nitrogen 0.10%; Soluble potash 0.10%	https://bioflora.com.au/australian-trial-results/
BiologiCAL PLUS	composite/blend	not registered	stress resistance	not registered	calcium acetate	not registered	soil biology/saline or sodic soils	all crops	SLTEC	liquid	No	8.0-10.0	41.8% molasses, 0.3% kelp, 0.2% Humic, 0.3% Fish, 0.1% B, 6.3% Ca, 1.8% S, 2% K	-
BiologiCAL PLUS TE	composite/blend	not registered	crop nutrition	not registered	calcium acetate	not registered	crop health	all crops	SLTEC	liquid	No	6.5-7.5	38.0% molasses, 0.23% kelp, 0.2% Humic, 0.2% Fish, 5.9% Ca, 1.8% K, 1.7% S	-
BioMAX Biologic Blend	composite/blend	not registered	soil biology stimulant	not registered	Brown coal (humic acid); Seven bacterial species: <i>Azospirillum brasilense</i> , <i>Bacillus subtilis</i> , <i>B. megaterium</i> , <i>Cellulomonas cellulosa</i> , <i>Pseudomonas fluorescens</i> , <i>P. putida</i> , <i>Streptomyces cellulosa</i> ; Two fungal species: <i>Trichoderma harzianum</i> , <i>Yarrowia lipolytica</i>	not registered	Pre-plant soil conditioner/fertiliser to stimulate beneficial microbial activity in the root zone and biological processes: nitrogen fixation, phosphorus solubilisation, growth hormone production.	vegetables (potato, onion, carrots)	LawrieCo Pty Ltd trading as LawrieCo, South Australia	compost style	No	-	Inoculum: Bacterial and fungal species (no concentration specified); Elements expressed as w/w % (dry basis): Nitrogen 0.34, Phosphorus 2.2, Potassium 0.05%, Sulphur 1.6%, Calcium 6.7%, Magnesium 0.9%, Sodium 0.3%, Silica 0.12%, Iron 2.9%, Manganese 0.03%, Organic Carbon 22.3%, Humic acid 27.3%, Moisture 25 - 35%.	-
BioMAX Digest Fungi & Food + Kicker	composite/blend	not registered	soil biology stimulant	not registered	Four fungal species: <i>Chaetomium brasilense</i> , <i>C. globosum</i> , <i>Trichoderma viride</i> and <i>T. harzianum</i> ; kelp, fulvic acids	not registered	Crop residue (stubble) management: postharvest cellulose decomposing fungal inoculum	all crops	LawrieCo Pty Ltd trading as LawrieCo, South Australia	liquid	No	4.8 - 5	Microbial inoculum: Fungal species (concentration not specified); Other ingredients expressed as w/w%: Water 30 - 60%, Ammonium sulphate 10 - 30%, Ammonium nitrate 10 - 30%, Urea 10 - 30%, Potassium fulvate (fulvic acid, potassium salt) 5 - 10%, Proprietary Plant Growth Stimulants 10 - 30%	-

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BioMAX MicroLife Inoculum + Food	composite/blend	not registered	soil biology stimulant	not registered	Ingredients for fermentation process - Microbial inoculum: Seven bacterial species: <i>Azospirillum brasilense</i> , <i>Bacillus subtilis</i> , <i>B. megaterium</i> , <i>Cellulomonas cellulosa</i> , <i>Pseudomonas fluorescens</i> , <i>P. putida</i> , <i>Streptomyces cellulosae</i> ; Two fungal species: <i>Trichoderma harzianum</i> , <i>Yarrowia lipolytica</i> ; humic acid. Liquid food source: yeast (not specified) extract, potato starch, peptone, molasse, malt extract, inorganic salts, thiamine HCl	not registered	Use as fermented product - Foliar spray alone or generally a foliar spray with nutrition, it can also be used as a direct inject or in drip irrigation (fertigation) combined with nutrient applications. It is also added to manufacturer's foliar nutrition products (incl. HumiPLEX, NutriMAX liquid range) and is used to inoculate manufacturer's brown coal based BioMax BioLogic Blend	all crops	LawrieCo Pty Ltd trading as LawrieCo, South Australia	powder + liquid	No	6.7 - 7.5 (at 20 °C, 50 g/L water)	Inoculum ingredients expressed as w/w%: Bacterial and fungal species 15 - 20%, Wheat germ 25 - 30%, Humic acid (potassium salt) < 2%, inert carrier (excipient) 50 - 60%. Liquid food ingredients expressed as w/w%: water 50 - 60%, yeast extract 5 - 10%, potato starch 5 - 10%, peptone 5 - 10%, molasses 5 - 10%, malt extract < 5%, inorganic salts < 5%, thiamine HCl < 0.5%	-
BIOWISH Crop 16-40-0	composite/blend	not registered	soil biology stimulant	not registered	Microbial inoculum: <i>Bacillus subtilis</i> , <i>Bacillus amyloliquefaciens</i> , <i>Bacillus licheniformis</i> , <i>Bacillus pumilus</i> . Diammonium phosphate, diatomaceous earth	not registered	Soil conditioner/fertiliser supplement through fertigation or (foliar) spray to stimulate beneficial microbial activity in the root zone and biological processes.	all crops	BIOWISH Technologies Inc., USA / Enviro Nutrition Pty Ltd, Queensland	powder	No	7.9 - 8.5 U	Bacterial live cultures (total < 1.0%): <i>Bacillus subtilis</i> 1.0 x 10 ⁸ CFU/g, <i>B. amyloliquefaciens</i> 1.0 x 10 ⁸ CFU/g, <i>B. licheniformis</i> 1.0 x 10 ⁵ CFU/g, <i>B. pumilus</i> 1.0 x 10 ⁶ CFU/g. Diammonium phosphate 93.0 - 97.0%, Diatomaceous earth 3.0 - 5.0%, Guaranteed Analysis: ammoniacal nitrogen 16.0%, available phosphate 40.0%	https://biowishtechologies.com/product/crop-16-40-0/
Cloak Spray Oil	composite/blend	not registered	wetting agent	not registered	canola oil, fish oil	not registered	product penetration	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	7 to 8	not supplied	-
FertiCoat	composite/blend	not registered	crop nutrition	not registered	information not provided	not registered	reduce leaf scorch, increase nutrient use efficiency	all crops	Omnia	liquid fertiliser coating	No	>10	Potassium >4.5% wt/Vol, Humic and Fulvic acids, seaweed, amino acids, trace elements and vitamins, coating polymers.	-
Fertile Veg	composite/blend	not registered	crop nutrition	not registered	NPK and trace elements in glycine amino acid chelate form	not registered	nutrition (foliar fertiliser)	all crops	Zadco (JH Biotech)	granular	Yes	n/a	Nitrogen 10%, Phosphorous 10%, Potassium 23%, Sulphur 4%, Magnesium 2%, Zinc 0.03%, Iron 0.018%, Manganese 0.027%, Copper 0.008%, Boron 0.005%, Molybdenum 0.004%	-
FoliCal 19	composite/blend	not registered	growth stimulant/ regulator	not registered	calcium chloride 50-100%, claim that it is boosted with Fulvic Acid	not registered	nutrition	all crops	Omnia	liquid	No	2.5	Calcium 19% wt/Vol	-
Fruit & Balance	composite/blend	not registered	growth stimulant/ regulator	not registered	Fermented product - Microbial inoculum: fungi, bacteria, yeast and protozoans (not specified); Liquid food source containing vitamins, minerals, proteins, enzymes, amino acids, carbohydrates, and growth promoters (not specified).	not registered	Foliar nutrition spray to enhance reproductive growth (flowering, fruit set)	all crops	BioAg Pty Ltd, New South Wales	liquid	Yes	4.5	Not supplied	https://www.bioag.com.au/trials-demonstrations/
Germinator Pelletised Crop Starter	composite/blend	not registered	soil biology stimulant	not registered	Microbial inoculum: <i>Enterococcus faecalis</i> , <i>Lactobacillus</i> spp., <i>Pediococcus pentosaceus</i> , <i>Aspergillus</i> spp., <i>Saccharomyces cerevisiae</i> , <i>Bacillus subtilis</i> subsp. Blood meal, bone meal, fish meal, humic and fulvic acids	not registered	Pre-plant soil conditioner/fertiliser supplement to stimulate beneficial microbial activity in the root zone and biological processes.	all crops	Biolink 4 Plants Pty Ltd, Victoria	granular	Yes	n/a	Inoculum: Micro-organisms (concentrations not specified); Guaranteed minimum for: Calcium 9.9%, Nitrogen 7.27%, Phosphorus 5%, Potassium 1.57%, Sulphur 0.77%.	-
GrowGreen /Microbe Plus Kelp /Microbe Plus Kelp Premium	composite/blend	not registered	soil biology stimulant	not registered	liquid blend of soluble kelp (two seaweed species, not specified), calcium, vitamins, molasses, bacterial and fungal plant growth promoters (not specified), plant growth hormones (auxins, cytokinins, gibberellins, abscisic acid)	not registered	enhanced soil microbial activity, soil and plant health	all crops	GrowGreen Pty Ltd, Queensland	liquid	Yes (Microbe Plus Kelp Premium only)	-	Fungi/bacteria initially present at max. 10 ⁶ CFU/mL; All % as w/v %: Nitrogen 0.2%, Phosphorus as water soluble 0.1%, Potassium as molasses 0.3% + as soluble potash 0.1% (Microbe Plus Kelp only), Calcium 0.4% (Microbe Plus Kelp only) Phytohormones expressed as ng/g FW (for Microbe Plus Kelp only): Cytokinins 85, Abscisic Acid 103, Auxins 723, Gibberellins 11	-
GrowGreen AminoElite	composite/blend	not registered	soil biology stimulant	not registered	Microbially (= enzymatically) digested deep sea fish emulsion & crustaceans, vegetable oils + plant beneficial fungi and bacteria (not specified)	not registered	plant health	all vegetables + other crops	GrowGreen Pty Ltd, Queensland	liquid	No	-	Fungi/bacteria initially present at max. 10 ⁶ CFU/mL; all %=w/v%: Nitrogen 3.30%, Phosphorus as water soluble 0.7%, Potassium 0.5%, Sulphur 0.55%, Molybdenum 0.01%, Boron 0.04%, Calcium 0.2%, Zinc 0.1%, Iron 0.005%, Magnesium 0.02%, Manganese 0.025%, Cobalt 0.0025%	-
GrowGreen AminoKelp	composite/blend	not registered	soil biology stimulant	not registered	Mixture of GrowGreen AminoElite and GrowGreen Microbe Plus Kelp	not registered	enhanced soil microbial activity, soil and plant health	all vegetables + other crops	GrowGreen Pty Ltd, Queensland	liquid	No	-	Fungi/bacteria initially present at max. 10 ⁶ CFU/mL; all %=w/v%: Nitrogen 3.0%, Phosphorus 0.70%, Potassium 0.5%, Magnesium 0.02%, Sulphur 0.55% Zinc 0.07%, Manganese 0.03%, Iron 0.005% Boron 0.04%, Molybdenum 0.01%, Cobalt 0.0025%	-
GrowGreen Microbe Plus Citrus	composite/blend	not registered	soil biology stimulant	not registered	Foliar NPK fertiliser integrated with microbial (bacteria and fungi, not specified) cultures	not registered	plant health	designed for citrus, also effective with vegetable & fruit crops	GrowGreen Pty Ltd, Queensland	liquid	No	-	Fungi/bacteria initially present at max. 10 ⁶ CFU/mL; all %=w/v%: Nitrogen 7.0%, Phosphorus 0.1%, Potassium 4.0%, Molybdenum 0.015%, Boron 0.042%, Calcium 4.6%, Zinc 1.8%, Iron 0.02% Magnesium 1.1%, Manganese 0.6%, Cobalt 0.007%	-
GrowGreen Microbe Plus PhosCal	composite/blend	not registered	soil biology stimulant	not registered	Phosphorous acid, calcium carbonate, magnesium with beneficial soil fungi and bacteria (not specified)	not registered	enhanced soil microbial activity, soil and plant health	all crops	GrowGreen Pty Ltd, Queensland	liquid	No	-	Fungi/bacteria initially present at max. 10 ⁶ CFU/mL; All % as w/v %: Phosphorus 7.0%, Calcium 4.0%, Magnesium 0.1%, Copper 0.025%	-
GrowGreen Microbe Plus Potassium	composite/blend	not registered	soil biology stimulant	not registered	Foliar K fertiliser integrated with plant and soil beneficial fungi and bacteria (not specified)	not registered	plant health	all crops	GrowGreen Pty Ltd, Queensland	liquid	No	-	Fungi/bacteria initially present at max. 10 ⁶ CFU/mL; All % as w/v %: Potassium 11.0%, Sulphur 0.1%, Molybdenum 0.017%, Boron 0.014%, Zinc 0.022%, Iron 0.004%, Cobalt 0.001%	-

Biological Products Database - by Product Source and Trade Name - April 2023

Trade Name	Source	Registered Product Type (APVMA Registered)	Product type Has been used as / for (not registered)	Ingredient(s)		Registered Use (APVMA Registered Products)	Use Has been used as / for (not registered)2	Crop	Manufacturer	Formulation	Australian Certified Organic	pH	Analysis	Trial Information
				Active Ingredient(s) (APVMA Registered Products)	Main ingredient(s) of non registered products									
GrowGreen AminoKelp Premium	composite/blend	not registered	soil biology stimulant	not registered	microbially (= enzymatically) digested blend of selected marine waste and different seaweed extracts, rhizobacterial and fungal plant growth promoters (not specified), plant growth hormones (auxins, cytokinins, gibberellins, abscisic acid)	not registered	enhanced soil microbial activity, soil and plant health	all crops	GrowGreen Pty Ltd, Queensland	liquid	Yes	2.0 - 4.5	Fungi/bacteria initially present at max. 10 ⁶ CFU/mL; All % as w/v %: Nitrogen 0.20 - 0.45%, Phosphorus 0.05 - 0.15%, Sulphur 0.15 - 0.30%, Potassium 0.15%	-
GrowGreen AminoOrganic Premium	composite/blend	not registered	soil biology stimulant	not registered	microbially (=enzymatically) digested blend of marine crustaceans + beneficial bacteria and fungi (not specified) + fulvic acid	not registered	enhanced soil microbial activity, soil and plant health	all crops	GrowGreen Pty Ltd, Queensland	liquid	Yes	-	Fungi/bacteria initially present at max. 10 ⁶ CFU/mL; All % as w/v %: Nitrogen 0.5%, Phosphorus 0.1%, Sulphur 0.5%	-
GrowGreen Profert	composite/blend	not registered	soil biology stimulant	not registered	Spores of four VAM species: <i>Claroideoglossum etunicatum</i> (previously known as <i>Glomus etunicatum</i>), <i>Funnelformis mosseae</i> (previously known as <i>Glomus mosseae</i>), <i>Rhizophagus irregularis</i> (previously known as <i>Glomus intraradices</i>), <i>Scutellospora dipurpurens</i> ; Microbially (= enzymatically) digested deep sea fish emulsion & crustaceans + beneficial bacteria (not specified)	not registered	mycorrhizae and enhanced soil microbial activity, soil and plant health	all mycorrhizal crops	GrowGreen Pty Ltd, Queensland	liquid	No	-	Fungi/bacteria initially present at max. 10 ⁶ CFU/mL; All % as w/v %: Nitrogen total 3.0%, Phosphorus 0.6%, Potassium 0.4%, Calcium 0.2%, Magnesium 0.02%, Sulphur 0.55%, Zinc 0.10%, Manganese 0.025%, Iron 0.005%, Boron 0.04%, Molybdenum 0.01%, Cobalt 0.0025%	-
Humakelp	composite/blend	not registered	crop nutrition	not registered	humate and kelp	not registered	nutrient use efficiency/soil health	all crops	Omnia	liquid	Yes	>10	Potassium 4% wt/vol, amino acids, plant growth stimulants, trace elements	-
Ignition Compost Starter	composite/blend	not registered	soil biology stimulant	not registered	Microbial inoculum: <i>Enterococcus faecium</i> , <i>Lactobacillus plantarum</i> , <i>Lactobacillus casei</i> , <i>Pediococcus pentosaceus</i> , <i>Aspergillus oryzae</i> , <i>Aspergillus niger</i> , <i>Saccharomyces cerevisiae</i> , <i>Bacillus subtilis</i> . Blood meal, bone meal, fish meal, humic and fulvic acids	not registered	Pre-plant soil conditioner/fertiliser supplement (compost production) to stimulate beneficial microbial activity in the root zone and biological processes.	all crops	Biolink 4 Plants Pty Ltd, Victoria	granular/powd	Yes	n/a	Inoculum: Micro-organisms (concentrations not specified); Guaranteed minimum for: Calcium 9.9%, Nitrogen 7.27%, Phosphorus 5%, Potassium 1.57%, Sulphur 0.77%.	https://biolink4plants.com.au/agriculture-sustainable-farming/
Ignition Soil Drench	composite/blend	not registered	soil biology stimulant	not registered	Microbial inoculum: <i>Enterococcus faecium</i> , <i>Lactobacillus plantarum</i> , <i>Lactobacillus casei</i> , <i>Pediococcus pentosaceus</i> , <i>Aspergillus oryzae</i> , <i>Aspergillus niger</i> , <i>Saccharomyces cerevisiae</i> , <i>Bacillus subtilis</i> . Blood meal, bone meal, fish meal, humic and fulvic acids	not registered	Soil conditioner/fertiliser supplement (compost tea) through fertigation/spray to stimulate beneficial microbial activity in the root zone and biological processes.	all crops	Biolink 4 Plants Pty Ltd, Victoria	granular/powd	Yes	-	Inoculum: Micro-organisms (concentrations not specified); Guaranteed minimum for: Calcium 9.9%, Nitrogen 7.27%, Phosphorus 5%, Potassium 1.57%, Sulphur 0.77%.	https://biolink4plants.com.au/agriculture-sustainable-farming/
Kelp-Boost	composite/blend	not registered	stress resistance	not registered	kelp (<i>Ascophyllum nodosum</i>), nutrients	not registered	crop health	all crops	SLTEC	liquid	No	8.5-9.5	all % as w/v%: 10% kelp, 6.4% K, 0.7% P, 0.4% N, 1.1% fulvic acid, 1.4% amino acids	-
Mega-Kel-P	composite/blend	not registered	crop nutrition	not registered	kelp, fulvic acid, chemical elements	not registered	nutrition (foliar fertiliser)	vineyard, orchard, broadacre, vegetables	Omnia	liquid	No	<3	Nitrogen 4% wt/vol, Phosphorus 9%, Potassium 2.1%, Sulphur 2.7%, Manganese 1.9%, Zinc EDTA 1.3%, Copper EDTA 0.23%, Iron EDTA 0.18%, Boron 0.22%, Molybdenum 0.03%, Magnesium 1.3%, amino acids, seaweed, fulvic acids, biostimulants, uptake enhancers.	-
New Era Better Grow	composite/blend	not registered	crop nutrition	not registered	composted poultry manure	not registered	soil health, nutrient uptake	all crops	Sustainable Farming Solutions	pellets	Yes	n/a	4.0% N, 1.8% P, 2.2% K, 3.2% Ca, 0.5% S, 0.6% Mg, 0.2% Fe, 370ppm Zn, 170ppm Cu, 500ppm Mn	-
New Era Premium	composite/blend	not registered	crop nutrition	not registered	meat, bone, fish meal; seaweed extract, composted poultry manure	not registered	pre-plant fertiliser for vegetables; basal fertiliser for fruit trees	all crops	Sustainable Farming Solutions	pellets	Yes	n/a	3.6% N, 3.1% P, 4% K, 6.3% Ca, 1.6% S, 0.7% Mg, 0.2% Fe, 0.03% Zn, 0.03% Mn, 1.4% Si	https://sustainablefarming.com.au/trials-trials-database/
New Era Protein Meal	composite/blend	not registered	crop nutrition	not registered	animal protein blend	not registered	slow release source of natural N	all crops	Sustainable Farming Solutions	n/a	Yes	n/a	13% N	https://sustainablefarming.com.au/trials-trials-database/
Photo-Finish	composite/blend	not registered	growth stimulant/ regulator	not registered	silicon, kelp, humic acid	not registered	crop health	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	11 to 12	Potassium 10.6%, Silicon 10.38%	-
Plant of Health	composite/blend	not registered	stress resistance	not registered	VAMs (not specified), <i>Trichoderma</i> spp., silica, zeolites, kelp, natural surfactant (saponins), humic and fulvic acids, natural rock minerals	not registered	enhanced fertiliser uptake, soil health, mycorrhizae	all mycorrhizal crops	Batphone Australia Pty Ltd, Queensland	granular/powd	No	-	not supplied	https://www.batphone.com.au/images/articles/Testimonials/BelleJardinTrialofPlantAssistMPB-1.pdf
QuadSHOT	composite/blend	not registered	growth stimulant/ regulator	not registered	humic acid/ fulvic acid/ fish extract/ molasses	not registered	crop health	all crops	SLTEC	liquid	Yes	10.0-11.0	8% Molasses, 8% kelp, 6.6% Fish, 8% Fulvic, 3.4% K	-
Soil & Seed	composite/blend	not registered	soil biology stimulant	not registered	Fermented product - Microbial inoculum: Bacteria (<i>Pseudomonas</i> spp., Actinomycetes, Gram positive spp., Gram negative spp., anaerobic spp.), Fungi (<i>Aspergillus</i> spp., <i>Penicillium</i> spp., unspecified yeast spp.), protozoans (not specified); Liquid food source: molasses, raw sugar, seaweed concentrate, fish hydrolysate, humic compounds, vitamins, minerals	not registered	Soil amendment, seed inoculum for enhanced soil health	all crops	BioAg Pty Ltd, New South Wales	liquid	Yes	3.4 - 4.5	Micro-organisms (total of 38.6 g/L): Bacteria (total of 26.7 g/L): <i>Pseudomonas</i> spp. 4.8 g/L, <i>Actinomycetes</i> 0.7 g/L; Gram positive spp. 3.2 g/L, Gram negative spp. 23.4 g/L, Anaerobic spp. 0.1 g/L; Total fungi at 11.5 g/L; All % as w/v %: Ash 6.5%, Fat 0.15%, Protein 1.6%, Carbohydrate 18.2%, Phosphorus 2.09%, Phosphorus (bio-available) 2.04%, Orthophosphate (water soluble) 1.7%	https://www.bioag.com.au/trials-demonstrations/
Soil Activator	composite/blend	not registered	soil biology stimulant	not registered	amino acids, vitamins, seaweed extracts, humus, fish & molasses	not registered	soil biological activity	all crops	Sustainable Farming Solutions	liquid	Yes	3.2 - 4	Fish emulsion, seaweed extracts, fulvic acid, molasses	https://sustainablefarming.com.au/trials-trials-database/
Stimulate	composite/blend	not registered	growth stimulant/ regulator	not registered	kelp, fulvic acid, alginic acid	not registered	nutrition, stress, soil biology	all crops	Nutri-Tech Solutions (NTS)	granular	Yes	6.7	Fulvic Acid 35%, Alginic acid 9%, Nitrogen 1.69%, Potassium 11%, Sulphur 2.48%, Magnesium 0.98%, Calcium 0.72%, Iron 0.53%	-
SureCROP VAM	composite/blend	not registered	crop nutrition	not registered	4 VAM species: <i>Claroideoglossum etunicatum</i> , <i>Funnelformis mosseae</i> , <i>Rhizophagus irregularis</i> , <i>Rhizophagus aggregatus</i> ; 5 Bacillus spp.: <i>B. subtilis</i> , <i>B. laterosporus</i> , <i>B. licheniformis</i> , <i>B. megaterium</i> , <i>B. pumilus</i> ; 1 Paenibacillus sp.: <i>P. polymyxa</i> ; 4 Trichoderma spp.: <i>T. harzianum</i> , <i>T. viride</i> , <i>T. koningii</i> , <i>T. polysporum</i> ; humic and fulvic acids	not registered	Pre-plant fertiliser/biological seed coating for enhanced fertiliser uptake, soil health, mycorrhizae	all mycorrhizal crops	LawrieCo Pty Ltd trading as LawrieCo, South Australia	powder + liquid	Yes	8.0 - 8.3	Multiple microbial species at 32,500 propagules/L; Phosphorus 1.68%, Potassium 0.71%, Sulphur 0.15%, Calcium 5.17%, Silicate 2.52%, Zinc oxide 2.40%, Manganese carbonate 1.53%, Humic acid 4.40%, Fulvic acid 3.18% (all %=w/v%)	-
TM Agricultural	composite/blend	not registered	soil biology stimulant	not registered	plant extracts, kelp, molasses, fish meal	not registered	Stimulate Micro Organisms	all crops and pasture	Best Farming Systems Pty Ltd	liquid	Yes	-	all % as w/v%: Potassium 0.2%, Sulphur 0.1%, soluble potash 0.5%, Boron 0.05%, Iron 0.02%	https://bestfarming.com.au/trials/

Biological Products Database - by Product Source and Trade Name - April 2023

Trade Name	Source	Registered Product Type (APVMA Registered)	Product type Has been used as / for (not registered)	Ingredient(s)		Registered Use (APVMA Registered Products)	Use Has been used as / for (not registered)2	Crop	Manufacturer	Formulation	Australian Certified Organic	pH	Analysis	Trial Information
				Active Ingredient(s) (APVMA Registered Products)	Main ingredient(s) of non registered products									
YLAD Living Compost	composite/blend	not registered	growth stimulant/ regulator	not registered	Micro-organisms (not specified); Manure, Wheat straw, Compost, Clay.	not registered	Pre-plant soil conditioner/fertiliser to stimulate beneficial microbial activity in the root zone and biological processes: nitrogen fixation, phosphorus solubilisation, growth hormone production.	all crops	YLAD Living Soils, New South Wales	compost style	Yes	7.3 - 8.1	Inoculum: Micro-organisms (concentrations not specified); Manure 30 - 60%, Wheat straw 30%, Compost 20%, Clay 10%.	Seed inoculation / foliar spray to form a natural physical barrier to diseases
Aqua Power 5-1-1	fish extract	not registered	crop nutrition	not registered	hydrolysed fish protein and bone meal	not registered	nutrition	all crops	Zadco (JH Biotech)	liquid	Yes	n/a	Nitrogen 5%, Phosphorous 1%, Potassium 1%, 20 amino acids, 13 vitamins, 8 minerals (trace amounts)	-
Farm Saver liquid fish	fish extract	not registered	crop nutrition	not registered	fish extract	not registered	nutrition	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	4 to 5	Nitrogen 3.31%, Phosphorous 0.3%, Potassium 0.55%, Sulphur 0.71%, Magnesium 248 mg/L, Calcium 135mg/L	-
Fish Emulsion	fish extract	not registered	crop nutrition	not registered	fish emulsion	not registered	crop health	all crops	SLTEC	liquid	No	3.5-4.0	100% Fish Emulsion, 2.5% N	-
Fish Emulsion	fish extract	not registered	soil biology stimulant	not registered	fish	not registered	nutrient source for beneficial microbes	all crops	Sustainable Farming Solutions	liquid	Yes	3.2 - 4	2.5% N, 0.3% P, 0.25% K, 0.5% Ca, 3% oil content	https://sustainablefarming.com.au/trials/trials-database/
Fish Max	fish extract	not registered	soil biology stimulant	not registered	concentrated fish hydrolysate	not registered	soil health, nutrients for beneficial microbes	all crops	Sustainable Farming Solutions	liquid	Yes	5-6	7.8% N, 0.4% P, 2% K, 0.5% Ca	-
Fish Plus	fish extract	not registered	soil biology stimulant	not registered	fish, kelp, fulvic acid	not registered	soil biological activity, soil health	all crops	Sustainable Farming Solutions	liquid	Yes	3.2 - 4	2.1% N, 1.0% P, 0.5% K, 0.4% Ca	-
HydraFish	fish extract	not registered	crop nutrition	not registered	Fish emulsion (not specified) containing macro+ micronutrients	not registered	2 step nutrition application: soil fertiliser followed by foliar spray to enhance nutrient availability and soil health	vegetables, vines, vegetables as soil fertiliser and foliar spray	BioAg Pty Ltd, New South Wales	liquid	Yes	3.0 - 4.0	100% fish emulsion obtained using a natural enzyme process at low temperature. All %=w/v%: Nitrogen 2.5%, Phosphorus 1.25%, Potassium 0.25%, Calcium 0.5%, Sodium (NaCl salt) < 36%	-
Liquid Fish	fish extract	not registered	crop nutrition	not registered	97.5% cold processed liquid fish	not registered	crop health	all crops	Eco Growth	liquid	Yes	n/a	Nitrogen 2.5%, Phosphorous 0.41%, Potassium 0.14%, Sulphur 0.16%, Calcium 0.31%, Magnesium 0.03%, Iron 0.08%, Zinc 6ppm, Manganese 1ppm, Copper 1ppm, Boron 4ppm	-
Nutri-Sea liquid fish	fish extract	not registered	crop nutrition	not registered	amino acids, natural nitrogen, trace elements	not registered	nutrition, soil biology	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	2.2 - 4.2	Nitrogen 5%, Phosphorous 0.65%, Potassium 1.32%, Sulphur 1.65%, Calcium 0.19%, Magnesium 0.11%	-
Purafish	fish extract	not registered	crop nutrition	not registered	fish extract	not registered	nutrition	all crops	Omnia	liquid	Yes	<4	Nitrogen 2.5% wt/vol, Phosphorous 1.25%wt/vol, 19 amino acids	-
Eco Fulvate	humic/fulvic	not registered	crop nutrition	not registered	Fulvic acid	not registered	plant uptake	all crops	Eco Growth	liquid	Yes	n/a	1% K w/v, 10.1% fulvic acid	-
Eco Humate	humic/fulvic	not registered	crop nutrition	not registered	humic acid, potassium	not registered	soil health, soil biology, crop health	all crops	Eco Growth	liquid	Yes	n/a	Humic acid 12.2%, Potassium 2.2%	-
Folup	humic/fulvic	not registered	crop nutrition	not registered	potassium fulvate	not registered	enhanced fertiliser uptake, soil health	all crops	Sustainable Farming Solutions	liquid	Yes	3.5-4	10% Fulvic acid with potassium	-
Fulvic 10	humic/fulvic	not registered	growth stimulant/ regulator	not registered	fulvic acid	not registered	crop health	all crops	SLTEC	liquid	No	5.0-6.0	10% Fulvic Acid, 2.6%K	-
Fulvic Acid Powder	humic/fulvic	not registered	crop nutrition	not registered	potassium fulvate	not registered	enhanced fertiliser uptake, soil health	all crops	Sustainable Farming Solutions	soluble powder	Yes	n/a	95% Fulvic acid with potassium	-
Fulvic Acid Powder	humic/fulvic	not registered	crop nutrition	not registered	fulvic acid	not registered	crop health, soil biology	all crops	Nutri-Tech Solutions (NTS)	granular	Yes	n/a	Fulvic Acid 70%, Nitrogen 2.5%, Phosphorous 0.1%, Potassium 6.9%, Sulphur 3.9%, Magnesium 1.8%, Calcium 1%	-
Granular Humic Acid	humic/fulvic	not registered	crop nutrition	not registered	humic acid	not registered	crop health, soil biology	all crops	Nutri-Tech Solutions (NTS)	granular	Yes	n/a	Humic acids 70%	-
Humax	humic/fulvic	not registered	crop nutrition	not registered	humic acid (from leonardite)	not registered	soil health	all crops	Zadco (JH Biotech)	granular	Yes	10.0 - 12.0	Humic acid 80%	-
Humic [K] WSG/WSP	humic/fulvic	not registered	crop nutrition	not registered	Humic acid, fulvic acid, potassium	not registered	soil carbon, soil biology	all crops	Sipcam (Agricrop)	granular	Yes	9.25	Humic acid 67%, Fulvic acid 7%, Potassium 10%	-
Humic K 26	humic/fulvic	not registered	growth stimulant/ regulator	not registered	humic acid	not registered	crop health	all crops	SLTEC	liquid	No	9.5-11.0	25% Humic, 1% Fulvic, 6% K	-
Humifirst WG	humic/fulvic	not registered	soil biology stimulant	not registered	humic and fulvic acids	not registered	crop health	general horticulture, orchards & vines, cane	Rovensa ANZ (Tradecorp)	microgranular	Yes	11	Total Humic Extract (THE): 65.0% w/w, Humic Acid: 53.0% w/w, Fulvic Acid: 12.0% w/w, Potassium (K ₂ O) soluble in water: 17.0% w/w	https://tradecorpastralia.com.au/prduct/humifirst/
Humus 100	humic/fulvic	not registered	soil biology stimulant	not registered	potassium humate	not registered	nutrient use efficiency/soil health	all crops	Sustainable Farming Solutions	liquid	Yes	9.5-10 (in v)	> 80% w/v includes 8% Potassium (>97% w/w dry weight after removing moisture)	https://sustainablefarming.com.au/trials/trials-database/
Humus 26	humic/fulvic	not registered	soil biology stimulant	not registered	humic and fulvic acid	not registered	nutrient use efficiency/soil health	all crops	Sustainable Farming Solutions	liquid	Yes	9.5-12	Potassium Humate & Fulvate 26.0% w/v	https://sustainablefarming.com.au/trials/trials-database/
Humus 400	humic/fulvic	not registered	crop nutrition	not registered	lignite, ligno-sulphates, cellulose	not registered	water infiltration, soil health	all crops	Eco Growth	granular	Yes	n/a	Nitrogen 0.9%, Phosphorous 0.4%, Potassium 0.12%, Sulphur 0.15%, Calcium 16.9%, Magnesium 0.8%, Iron 0.2%, Silicon 11.3%, Carbon 58%, Molybdenum 143 ppm	-
HydraHume	humic/fulvic	not registered	crop nutrition	not registered	High grade leonardite (source of humic acids)	not registered	soil fertiliser to enhance nutrient availability and soil health	all crops	BioAg Pty Ltd, New South Wales	liquid	Yes	9.5 - 10.5	Potassium Humate in solution 13% w/v, Total Potassium > 1.5% w/v	-
K-fulvate 10%	humic/fulvic	not registered	crop nutrition	not registered	potassium fulvate	not registered	nutrient uptake	all crops	Omnia	liquid	Yes	<3.5	Potassium >1% wt/vol, Potassium Fulvate 10% wt/vol	-
K-humate 26%	humic/fulvic	not registered	crop nutrition	not registered	potassium humate, potassium fulvate	not registered	nutrient uptake	all crops	Omnia	liquid	Yes	>10	Potassium >5% wt/vol, Potassium Humate + Potassium Fulvate 26% wt/vol	-
K-humate S100	humic/fulvic	not registered	crop nutrition	not registered	potassium humate, potassium fulvate	not registered	nutrient retention, water holding capacity	all crops	Omnia	granular	Yes	>10	Potassium >15% wt/vol, Potassium Humate + Potassium fulvate 85-95%	-
Liquid Humus	humic/fulvic	not registered	crop nutrition	not registered	humic acid	not registered	crop health, soil biology	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	10.5 - 11.5	Potassium humate 12.6%	-
Mobilizer	humic/fulvic	not registered	soil biology stimulant	not registered	fulvic acid and amino acids	not registered	compatibility	all crops	Zadco (JH Biotech)	liquid	Yes	3.3	Fulvic acid and amino acids 3%	-
Organic-N	humic/fulvic	not registered	crop nutrition	not registered	nitrogen & fulvic acids	not registered	managing crop nitrogen demand & building yield. Supports crops under stress	all crops	Sustainable Farming Solutions	liquid	Yes	5.5-7.5	10% N w/v with amino acids, 23% fulvic acids w/v, 37.5% organic C w/v	https://sustainablefarming.com.au/trials/trials-database/
Rhizovator™ OB	humic/fulvic	not registered	soil biology stimulant	not registered	potassium humate, potassium fulvate	not registered	soil health	broadacre, orchards, potatoes	Omnia	liquid	Yes	>9	Nitrogen 0.25% wt/vol, Potassium 4.66%, Potassium humate 18.2%, Potassium fulvate 0.5%	-
Rhizovator™ PC	humic/fulvic	not registered	soil biology stimulant	not registered	potassium humate, potassium fulvate, kelp	not registered	soil health, root system	broadacre, orchards, potatoes	Omnia	liquid	Yes	>9	Nitrogen 0.25% wt/vol, Potassium 4.66%, Potassium humate 13%, Potassium fulvate 0.5%	-
Soil Enhancer	humic/fulvic	not registered	soil biology stimulant	not registered	humus	not registered	soil biological activity	all crops	Sustainable Farming Solutions	liquid	Yes	Alkaline >9	Humic acid, seaweed extracts	https://sustainablefarming.com.au/trials/trials-database/
Turboroot WG	humic/fulvic	not registered	soil biology stimulant	not registered	humic, fulvic acids , L-α free amino acids, N, P, K	not registered	crop health	all crops	Rovensa ANZ (Tradecorp)	microgranular	No	6.7	Total Humic Extract (THE): 29.1%, L-α free amino acids 22.2%, organic Nitrogen 3.0%, Phosphorus 7.1%, Potassium 14.9%, Iron EDDHA 0.1%, Manganese EDTA 0.2%, Zinc EDTA 0.2%, Molybdenum 0.25% [%ages w/v]	https://tradecorpastralia.com.au/prduct/turbo-root-wg/
Vital Earth	humic/fulvic	not registered	crop nutrition	not registered	humic and fulvic acids	not registered	improving soil structure, promoting microbial activity, reducing Phosphorous lockup	all soil grown crops	Sustainable Farming Solutions	pellets	Yes	9.5-11	40% humic and fulvic acids (with potassium), 37.9% silicates, Ca-0.22% Fe-2.43% Mg-0.54% S-0.39% K-3.44% Cu-17ppm Co-7.7ppm Mn-52ppm Mo-1.05ppm Na-0.34% P-150ppm Se-0.81ppm, Zn 11.5ppm	https://sustainablefarming.com.au/trials/trials-database/



Biological Products Database - by Product Source and Trade Name - April 2023

Trade Name	Source	Registered Product Type (APVMA Registered)	Product type Has been used as / for (not registered)	Active Ingredient(s) (APVMA Registered Products)	Ingredient(s) Main ingredient(s) of non registered products	Registered Use (APVMA Registered)	Use Has been used as / for (not registered)2	Crop	Manufacturer	Formulation	Australian Certified Organic	pH	Analysis	Trial Information
Actinobact	microbial	not registered	growth stimulant/ regulator	not registered	<i>Streptomyces</i> sp. <i>Bacillus subtilis</i>	not registered	root system	all crops	Sustainable Farming Solutions	liquid	Yes	6 to 6.8	<i>Streptomyces</i> sp. and <i>Bacillus subtilis</i> 1 x 10 ⁸ CFU/mL	-
Actinovate Biofungicide	microbial	fungicide	-	<i>Streptomyces lydicus</i> strain WYEC 108	-	Preventative control of foliar diseases (incl. powdery mildew) and soilborne diseases (incl. Fusarium wilt, Rhizoctonia root rot, Pythium damping off) + Biological soil amendment (to supplement nutrient availability, plant growth)	-	vegetable crops and others (foliar diseases, soilborne diseases through seed treatment, see label); all crops (biological soil amendment)	Novozymes BioAg Limited (Novozymes Biologicals Ltd), Canada / Novozymes Australia Pty Ltd, NSW	powder	Yes	n/a	<i>Streptomyces lydicus</i> strain WYEC 108 at 1 x 10 ⁷ CFU/g	Trials undertaken by manufacturer (protected data with APVMA)
Advance Promote	microbial	not registered	soil biology stimulant	not registered	VAM Fungi, Humates, Amino acids, micros, kelp, sugars	not registered	root system health	all crops	MicroSoil	liquid	No	4 - 5.5	<i>Bacillus</i> & <i>Pseudomonas</i> (14 strains - 340 CFU/ml)	-
Agree WG biological insecticide	microbial	insecticide	-	<i>Bacillus thuringiensis</i> Berliner subsp <i>aizawai</i>	-	armyworm cabbage moth cabbage white butterfly cotton budworm or bollworm grapevine moth light brown apple moth looper moth native budworm or bollworm painted vine moth pear looper soybean looper	-	amenity tree cereal grain cotton forestry fruit crop herb macadamia oilseed crop ornamental tobacco turf vegetables - see label vine	Certis U.S.A. L.L.C.	granular	No	-	<i>Bacillus thuringiensis</i> Berliner subsp. <i>aizawai</i> strain GC-91 concentration not given.	-
Agro-Vam	microbial	not registered	soil biology stimulant	not registered	one VAM (Vesicular Arbuscular Mycorrhizae) species: <i>Rhizophagus irregularis</i> (previously known as <i>Glomus intraradices</i>)	not registered	mycorrhizae	all vegetable crops + others	AgroBest Australia Pty Ltd, Queensland	powder	No	2.6 - 2.8	<i>Rhizophagus irregularis</i> (formerly <i>Glomus intraradices</i>) at 100 (spores + propagules)/g	-
Alosca EasyRhiz	microbial	not registered	soil biology stimulant	not registered	One or more rhizobial (bacterial) strains	not registered	Stimulation of rhizobial nodulation, nitrogen fixation and yield	crop and pasture legumes	Alosca Technologies Pty Ltd, WA	freeze dried	No	n/a	Rhizobia > 1 x 10 ⁷ CFU/g. The strains are classified into Groups (AL, C, FE, GS, N) matched to crops they can inoculate.	-
Alosca Granular	microbial	not registered	soil biology stimulant	not registered	One or more rhizobial (bacterial) strains	not registered	Stimulation of rhizobial nodulation, nitrogen fixation and yield	crop and pasture legumes	Alosca Technologies Pty Ltd, WA	granular	No	n/a	Rhizobia > 1 x 10 ⁹ CFU/g. The strains are classified into Groups (AL, AM, B/S, C, E/F, G/S, N) matched to crops they can inoculate.	http://alosca.com.au/wp-content/uploads/2015/08/AIOSCA-A-new-technology-to-deliver-rhizobia.pdf
Alosca Nodule N (Peat)	microbial	not registered	soil biology stimulant	not registered	One or more rhizobial (bacterial) strains	not registered	Stimulation of rhizobial nodulation, nitrogen fixation and yield	crop and pasture legumes	Alosca Technologies Pty Ltd, WA	compost style	No	n/a	Rhizobia > 1 x 10 ⁷ CFU/g. The strains are classified into Groups (AL, AM, BS, C, FE, GS, N, Biserrula) matched to crops they can inoculate.	-
Aspen	microbial	not registered	soil biology stimulant	not registered	<i>Azospirillum brasilense</i>	not registered	crop health	all crops	Novum Lifesciences, Queensland	liquid	Yes	4.5 - 8.5	1 x 10 ⁹ CFU/ml	-
B. Sub	microbial	not registered	growth stimulant/ regulator	not registered	<i>Bacillus subtilis</i> , activator	not registered	crop health	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	n/a	not supplied	-
Bacchus WG	microbial	insecticide	-	<i>Bacillus thuringiensis</i> subsp. <i>aizawai</i> strain GC-91 (1200 ITU/mg)	-	lepidoptera larvae	-	all crops	Campbell Chemicals	granular	n/a	4.1	<i>Bacillus thuringiensis</i> subsp. <i>aizawai</i> strain GC-91 (1200 ITU/mg)	-
BACSTIM® 100	microbial	not registered	soil biology stimulant	not registered	<i>Bacillus</i> sp.	not registered	root nutrient uptake	all crops	Omnia	liquid	No	4.2	2 strains <i>Bacillus licheniformis</i> , 2 strains <i>Brevibacillus laterosporus</i> , 1 strain <i>Bacillus amyloliquefaciens</i> , Total concentration 2 x 10 ⁹ CFU/ml	-
BAM	microbial	not registered	soil biology stimulant	not registered	blend of beneficial anaerobic organisms including phototropic non-sulphur bacteria and lactic acid bacteria	not registered	composting, crop health, nutrient availability	all crops, also compost, effluent ponds, septic treatment	Nutri-Tech Solutions (NTS)	liquid	Yes	2.5 - 4	not supplied	-
Basis XC	microbial	not registered	soil biology stimulant	not registered	microorganisms including <i>Bacillus licheniformis</i>	not registered	fertiliser efficiency	all crops	Loveland (distributed by Nutrien Ag)	liquid (for impregnation on dry fertilisers)	No	8	water-based culture medium 99%, microorganisms <1%, <i>Bacillus licheniformis</i> 1 x 10 ³ CFU/ml	-
Bee-Tagonizer Bee Vectoring Powder	microbial	not registered	fungicide	not registered	spores of beneficial fungus <i>Trichoderma harzianum</i> strain Td81b	not registered	entomovectoring: beneficial fungus that is carried by bees to colonise flowers and assist with fruit set, control of fungal pathogens	crops reliant on bee pollination for fruit set, including vegetables	Metcalfe BioControl (Biocontrol Australia Pty Ltd), Tasmania	powder	Yes	n/a	<i>Trichoderma harzianum</i> strain Td81b at 2 x 10 ⁸ spores/g	https://awitc.com.au/wp-content/uploads/2016/07/130_Metcalfe.pdf
Bio-N	microbial	not registered	crop nutrition	not registered	nitrogen fixing bacteria - <i>Azotobacter</i> species	not registered	nitrogen	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	n/a	not supplied	-
Bio-P	microbial	not registered	crop nutrition	not registered	<i>Azotobacter</i> spp., <i>Bacillus subtilis</i>	not registered	Phosphorous	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	n/a	not supplied	-
Bio-Plex	microbial	not registered	growth stimulant/ regulator	not registered	<i>Azobacter</i> spp.	not registered	leaf life	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	n/a	not supplied	-
Bio-Size	microbial	not registered	soil biology stimulant	not registered	by-products of microorganisms (no living organisms): betaines and amino acids	not registered	stimulate microorganisms	all crops	Zadco (JH Biotech)	liquid	Yes	n/a	not supplied	-
Biocrystal Kurstaki biological insecticide	microbial	insecticide	-	<i>Bacillus thuringiensis</i> subsp. <i>kurstaki</i> strain HD-1	-	armyworm cabbage moth cabbage white butterfly <i>Helicoverpa armigera</i> light brown apple moth looper - <i>Chrysodeixis</i> spp. native budworm or bollworm pear looper soybean looper tobacco looper or looper caterpillar vine moth	-	adzuki bean amenity tree canola cereals chickpea cotton faba bean field bean field pea forestry fruit herb lentil linola lucerne lupin - weed free seedbed mung bean navy bean oilseed crop ornamental pigeon pea safflowers sorghum soybean sunflower tobacco turf vegetable vetch vine	Grevilla Ag Pty Limited	liquid	No	n/a	<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i> strain HD-1. Concentration not given.	-
BioFlora GO Isolates	microbial	not registered	soil biology stimulant	not registered	two <i>Bacillus</i> species: <i>Bacillus amyloliquefaciens</i> and <i>B. subtilis</i>	not registered	enhanced soil microbial activity, soil and plant health	all vegetable crops + others	BioFlora, Queensland	liquid	Yes	9.1	Bacteria at 10 ³ CFU/mL	https://bioflora.com.au/australian-trial-results/
BIOWISH Crop	microbial	not registered	soil biology stimulant	not registered	Microbial inoculum: <i>Bacillus subtilis</i> , <i>Bacillus amyloliquefaciens</i> , <i>Bacillus licheniformis</i> , <i>Bacillus pumilus</i> . Dextrose	not registered	Soil conditioner/fertiliser supplement through fertigation or (foliar) spray to stimulate beneficial microbial activity in the root zone and biological processes.	all crops	BIOWISH Technologies Inc., USA / Enviro Nutrition Pty Ltd, Queensland	powder	Yes	5.0 - 6.0 S.U.	Bacterial live cultures (total < 1.0%): <i>Bacillus subtilis</i> ≥ 2.5 x 10 ⁷ CFU/g, <i>B. amyloliquefaciens</i> ≥ 2.5 x 10 ⁷ CFU/g, <i>B. licheniformis</i> ≥ 2.5 x 10 ⁷ CFU/g, <i>B. pumilus</i> ≥ 2.5 x 10 ⁷ CFU/g Dextrose 97.0 - 99.0%	-
BIOWISH Crop Liquid	microbial	not registered	soil biology stimulant	not registered	Microbial inoculum: <i>Bacillus subtilis</i> , <i>Bacillus amyloliquefaciens</i> , <i>Bacillus licheniformis</i> , <i>Bacillus pumilus</i> .	not registered	Fertiliser manufacturing: liquid product can be coated onto a wide range of solid fertilisers and fertiliser fillers, or mixed with liquid fertilisers to create enhanced efficiency fertilisers	all crops	BIOWISH Technologies Inc., USA / Enviro Nutrition Pty Ltd, Queensland	liquid	Yes	5.0 - 7.0 S.U.	Bacterial live cultures in aqueous suspension (total 99.0 - 99.9%): <i>Bacillus subtilis</i> , <i>B. amyloliquefaciens</i> , <i>B. licheniformis</i> , <i>B. pumilus</i> : all 1.0 x 10 ⁹ CFU/g; Calcium sulfate 0.1 - 1.0%, Preservative 0.01 - 0.1%	https://biowishtechologies.com/roadmap/crop-liquid/
Botector	microbial	fungicide	-	<i>Aureobasidium pullulans</i> strains DSM 14940 & 14941	-	control (preventative) of grey mould (<i>Botrytis cinerea</i>), suppression of sclerotinia (<i>Sclerotinia sclerotiorum</i>); other diseases as per label	-	fruiting vegetables (eggplant , melon, capsicum , tomato , zucchini) and berries	Nufarm Australia Ltd, Victoria	granular	Yes	-	<i>Aureobasidium pullulans</i> strains DSM 14940 & 14941 at minimum 2.5 x 10 ⁹ CFU/g	-
BTI 1200	microbial	insecticide	-	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> serotype H14a	-	mosquito larvae	-	all crops	Barmac Industries	liquid	n/a	4.8	not supplied	-

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Campbell Bacchus WG biological insecticide	microbial	insecticide	-	<i>Bacillus thuringiensis</i> Berliner subsp <i>aizawai</i>	-	armyworm cabbage moth cabbage white butterfly cotton budworm or bollworm light brown apple moth looper native budworm or bollworm susceptible insect species - see label vine moth	-	agricultural non-crop areas amenity tree cereal grain forestry fruit herb macadamia oilseed crop ornamental tobacco turf vegetable vine	Colin Campbell (Chemicals) Pty Ltd	granular	No	n/a	<i>Bacillus thuringiensis</i> Berliner subsp. <i>aizawai</i> strain GC-91 concentration not given.	-
CataPult /SuperFine /Power Inoculum /Power Seed Dressing	microbial	not registered	soil biology stimulant	not registered	Four species of VAMs (vesicular arbuscular mycorrhizae, not specified) + two species of phosphorus solubilising <i>Bacillus</i>	not registered	mycorrhizae	all mycorrhizal crops	Mapleton Agri Biotech Pty Ltd / Vanadis Bio Science Pty Ltd, Queensland	powder	No	n/a	not supplied	https://www.mabiotec.com/pdfs/trials/CataPult-TwinN-walnut-trial-UPDATE.pdf
Delfin WG biological insecticide	microbial	insecticide	-	<i>Bacillus thuringiensis</i> Berliner var. <i>kurstaki</i>	<i>Bacillus thuringiensis</i> Berliner var. <i>kurstaki</i>	armyworm cabbage moth cabbage white butterfly cluster caterpillar corn earworm grapevine moth <i>Helicoverpa armigera</i> lawn armyworm light brown apple moth looper looper - <i>Chrysodeixis</i> spp. native budworm or bollworm painted vine moth pear looper soybean looper tobacco looper or looper caterpillar vine moth	-	amenity tree cereal grain forestry fruit herb oilseed crop ornamental tobacco turf vegetables - see label vine	Certis U.S.A. L.L.C.	granular	No	n/a	<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i> strain SA-11. Concentration not given.	-
DiaSil	microbial	not registered	growth stimulant/ regulator	not registered	Micronised diatomaceous earth (fossilised remains of diatoms, a type of hard-shelled protists)	not registered	Applied as a seed coating, seedling drench, soil application, fertigation and a foliar spray (best in combination with LoliPepta product) for plant growth stimulation and environmental stress resilience	all crops	Novum Lifesciences, Queensland	powder	Yes	-	Elements expressed as %w/w. Diatomaceous earth ≥ 95%, Silica as quartz < 3%	-
Digestor NP	microbial	not registered	soil biology stimulant	not registered	microbial stimulatia (not specified)	not registered	soil health (stimulation of bacterial group Alphaproteobacteria, <i>Sphingomonas</i> spp.), nutrient uptake through irrigation, boom spray, over manure or compost, or via liquid injection	dicots: vegetable crops, legumes , fruit crops, bananas, orchards	Metagen Pty Ltd, Queensland	liquid	No	3.2	not supplied	-
DiPel DF biological insecticide dry flowable	microbial	insecticide	-	<i>Bacillus thuringiensis</i> subsp <i>kurstaki</i> strain ABTS-351	-	armyworm cabbage moth cabbage white butterfly cotton budworm or bollworm green looper light brown apple moth native budworm or bollworm pear looper soybean looper tobacco looper vine moth	-	amenity plantings cereal grain forestry fruit herb oilseed crop ornamental tobacco turf vegetable vine	Sumitomo Chemical Australia Pty Ltd	granular	Yes	n/a	<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i> strain ABTS-351. Concentration not given.	Trials undertaken by manufacturer
DiPel SC biological insecticide suspension concentrate	microbial	insecticide	-	<i>Bacillus thuringiensis</i> subsp <i>kurstaki</i> strain ABTS-351	-	armyworm cabbage moth cabbage white butterfly cotton budworm or bollworm green looper native budworm or bollworm pear looper soybean looper tobacco looper	-	adzuki bean canola oilseed crop chickpea cotton faba bean field pea lentil linola linseed oil crop lucerne lupin mung bean navy bean oilseed crop pigeon pea pulse crops safflower oilseed sorghum soybean sunflower vetch	Sumitomo Chemical Australia Pty Ltd	liquid	Yes	n/a	<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i> strain ABTS-351, concentration not given; hydrocarbon liquid 683g/L	https://sumitomo-chem.com.au/sites/default/files/iterature/dipel-sc_broadacre_broc_hure.pdf
Dominant-F	microbial	not registered	soil biology stimulant	not registered	not stated	not registered	microbial brew adjuvant for fungal dominated brew	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	4.4 - 5.4	not supplied	-
EasyRhiz	microbial	not registered	soil biology stimulant	not registered	One or more rhizobial (bacterial) strains	not registered	Stimulation of rhizobial nodulation, nitrogen fixation and yield	crop and pasture legumes	New Edge Microbials Pty Ltd, NSW	freeze dried	No	n/a	<i>Rhizobium leguminosarum</i> > 5 x 10 ¹¹ CFU/g. The strains are classified into Groups (F, H, I, J, M, N, P, Specials: Adzuki bean, Common bean, Burgundy bean, Fenugreek, Guar Bean) matched to the crops they can inoculate.	-
Eco Advance	microbial	not registered	crop nutrition	not registered	<i>Azotobacter</i> sp., <i>Azospirillum</i> , <i>Bacillus subtilis</i> , <i>Bacillus megaterium</i> , cellulosic fungi (<i>Chaetomium</i> spp.), mycorrhiza (<i>Glomus intraradices</i>), <i>Pseudomonas</i> spp., <i>Rhizobium</i> , <i>Streptomyces</i> , <i>Trichoderma</i> .	not registered	crop health, soil biology	all crops	Eco Growth	additive in other fertiliser products	Yes	n/a	not supplied	-
Endo-Fight	microbial	not registered	growth stimulant/ regulator	not registered	mix of 5 products - RhizoPhos, RhizoGuard, Mycorrhiza, AspeN, DiaSil	not registered	crop health, soil biology	all crops	Novum Lifesciences, Queensland	liquid and granular	Yes	7-8	<i>Azotobacter chroococcum</i> , <i>A. brasilense</i> , <i>Bacillus amyloliquefaciens</i> [strain rm303] 1x10 ⁹ CFU/ml, <i>Verticillium chlamydosporum</i> , <i>Rhizopogon irregularis</i>	-
EndoFight 2 in 1	microbial	not registered	soil biology stimulant	not registered	Fermented product - Microbial inoculum: <i>Azotobacter chroococcum</i> , <i>Azospirillum brasilense</i> , <i>Bacillus amyloliquefaciens</i> strain rm303	not registered	Pre-plant soil conditioner/fertiliser supplement to stimulate beneficial microbial activity in the root zone and biological processes (including nitrogen fixation)	all crops	Novum Lifesciences, Queensland	liquid	No	6.8 - 7.6	Elements expressed as %w/v. Bacterial live cultures in aqueous suspension (total concentration < 1%): <i>Azotobacter chroococcum</i> , <i>Azospirillum brasilense</i> , <i>Bacillus amyloliquefaciens</i> strain rm303. Non-hazardous components < 1% Water up to 100%	-
EndoFight 3 in 1	microbial	not registered	soil biology stimulant	not registered	Fermented product - Microbial inoculum: <i>Azotobacter chroococcum</i> , <i>Azospirillum brasilense</i> , <i>Bacillus amyloliquefaciens</i> strain rm303, <i>Pseudomonas fluorescens</i>	not registered	Pre-plant soil conditioner/fertiliser supplement to stimulate beneficial microbial activity in the root zone and biological processes (including nitrogen fixation, drought stress relief)	all crops	Novum Lifesciences, Queensland	liquid	No	6.8 - 7.6	Elements expressed as %w/v. Bacterial live cultures in aqueous suspension (total concentration < 1%): <i>Azotobacter chroococcum</i> , <i>Azospirillum brasilense</i> , <i>Bacillus amyloliquefaciens</i> strain rm303, <i>Pseudomonas fluorescens</i> . Non-hazardous components < 1% Water up to 100%	-
EndoPrime	microbial	not registered	soil biology stimulant	not registered	4 Endomycorrhizal fungi + 15% humic acid	not registered	mycorrhizae	all mycorrhizal crops	Sumitomo Chemical Australia Pty Ltd	powder	Yes	n/a	<i>Glomus intraradices</i> , <i>Glomus mosseae</i> , <i>Glomus aggregatum</i> , <i>Glomus etunicatum</i> all at 562 propagules/g, Humic acid from leanoardite 15%, Inert ingredients (clay) 84.3%	Trials undertaken by manufacturer
Evergrow NP	microbial	not registered	soil biology stimulant	not registered	microbial stimulatia (not specified)	not registered	soil health (stimulation of bacterial group Alphaproteobacteria), nutrient uptake through irrigation, boom spray, over manure or compost, or via liquid injection	monocots: cover crop grasses, cereal crops (corn)	Metagen Pty Ltd, Queensland	liquid	No	3.2	not supplied	-
Foundation LM	microbial	not registered	soil biology stimulant	not registered	microorganisms including <i>Bacillus licheniformis</i> , <i>Bacillus megaterium</i> , <i>Bacillus pumilus</i>	not registered	fertiliser efficiency	all crops	Loveland (distributed by Nutrien Ag)	liquid	No	8	water-based culture medium 99%, microorganisms <1%, <i>Bacillus licheniformis</i> 1 x 10 ³ CFU/mL, <i>Bacillus megaterium</i> 1 x 10 ³ CFU/mL, <i>Bacillus pumilus</i> 1 x 10 ³ CFU/mL	-
Fulzyme Plus	microbial	not registered	soil biology stimulant	not registered	<i>Bacillus subtilis</i> , amino acids	not registered	nutrition, crop health	all crops	Zadco (JH Biotech)	liquid	Yes	n/a	<i>Bacillus subtilis</i> 2 x 10 ¹⁰ CFU/g	-
Gemstar Helicoverpa management through bioscience biological insecticide	microbial	insecticide	-	Nuclear polyhedrosis virus of <i>Helicoverpa zea</i>	-	<i>Helicoverpa</i> spp.	-	chickpea cotton lettuce maize sorghum sweet corn	Certis U.S.A. L.L.C.	liquid	No	n/a	<i>Helicoverpa zea</i> virus, 2 x 10 ⁹ POB/mL	-

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MycApply Endo/Ecto	microbial	not registered	soil biology stimulant	not registered	endo (= VAM) and ecto mycorrhizae species (not specified)	not registered	mycorrhizae	all mycorrhizal crops	Mycorrhizal Applications International (MAI) Australia Pty Ltd, Western Australia	powder	No	n/a	not supplied	-
MycApply Maxx	microbial	not registered	soil biology stimulant	not registered	endo (= VAM) mycorrhizae species (not specified)	not registered	mycorrhizae	all mycorrhizal crops	Mycorrhizal Applications International (MAI) Australia Pty Ltd, Western Australia	powder	No	n/a	not supplied	-
Mycormax	microbial	not registered	soil biology stimulant	not registered	Mycorrhizal fungi	not registered	root system	host crops	Zadco (JH Biotech)	granular in sachets	Yes	n/a	<i>Glomus intraradices</i> , <i>Glomus mosseae</i> , <i>Pisolithus tinctorius</i> , <i>Sclerotium cepa</i> , <i>Sclerotium gastrum</i> , <i>Sclerotium citrinum</i> and <i>Laccaria bicolor</i> , 250,000 propagules/cc	-
Mycorrhiza	microbial	not registered	soil biology stimulant	not registered	vesicular arbuscular mycorrhizae (<i>Rhizophagus irregularis</i>)	not registered	crop health (mycorrhizae - seed coating, soil drench)	all mycorrhizal crops	Novum Lifesciences, Queensland	powder	Yes	6 - 7.5	not supplied	-
Naturalure Fruit Fly Bait Concentrate	microbial	insecticide	-	Spinosad (mixture of Spinosyn A and Spinosyn D in an approximate ratio of 17 to 3). Spinosad is a fermentation product of <i>Saccharopolyspora spinosa</i> .	-	control of fruit flies (incl. Qld fruit fly, Mediterranean fruit fly)	-	vegetable crops , fruit crops, nut crops, ornamentals and trees	Corteva Agriscience Australia Pty Ltd, New South Wales	liquid	Yes	4.7 (100% pH electrode)	Spinosad at 0.24 g/L: spinosad (spinosyn A, spinosyn D) 0.02%, sorbitan/monooleate/poly(oxy-1,2-ethanediyl) derivatives < 5.0%, propylene glycol < 5.0%.	-
Nematamax	microbial	not registered	insecticide	not registered	<i>Verticillium chlamydosporum</i>	not registered	nematodes	all crops	Novum Lifesciences, Queensland	liquid	Yes	6.5 - 8.5	not supplied	-
NitroGuard (= next generation version of TwinN)	microbial	not registered	soil biology stimulant	not registered	Rhizobacteria (not specified, possibly <i>Azospirillum</i> spp.) fixing nitrogen and producing plant growth factors (e.g. auxins) + <i>Bacillus</i> spp.	not registered	soil health, nutrient uptake	all vegetable crops + others	Mapleton Agri Biotech Pty Ltd / Vanadis Bio Science Pty Ltd, Queensland	freeze dried	No	n/a	not supplied	https://www.mabiotec.com/crop-trials.php
Nodulaid (Inoculant)	microbial	not registered	soil biology stimulant	not registered	One or more rhizobial strains	not registered	Stimulation of rhizobial nodulation, nitrogen fixation and yield	crop and pasture legumes	BASF Australia Ltd.	compost style	No	n/a	Rhizobia at > 1 x 10 ⁹ CFU/g. The strains are classified into Groups (AL, B, C, E, F, G, H, I, J, N) matched to crops they can inoculate.	https://crop-solutions.basf.com.au/preview/f/rod-uct/59cb38598d5cb7640c83751/nodulaid_fact_sheet.pdf
Nodulator (Inoculant Granules)	microbial	not registered	soil biology stimulant	not registered	One or more rhizobial strains	not registered	Stimulation of rhizobial nodulation, nitrogen fixation and yield	crop and pasture legumes	BASF Australia Ltd.	granular	No	n/a	Rhizobia > 1 x 10 ⁷ CFU/g. The strains are classified into Groups (AL, C, E, F, G, N) matched to crops they can inoculate.	https://crop-solutions.basf.com.au/preview/f/rod-uct/5a02730b0f60f7632fb2d64/220656_fcc_inoculant_collateral_update_fact_sheet_nodulator_web.pdf
NoduleN	microbial	not registered	soil biology stimulant	not registered	One or more rhizobial strains	not registered	Stimulation of rhizobial nodulation, nitrogen fixation and yield	crop and pasture legumes	New Edge Microbials Pty Ltd, NSW	compost style	No	n/a	Rhizobia > 1 x 10 ⁷ CFU/g. The strains are classified into Groups (AL, AM, B, C, F, G, H, I, J, M, N, P, S, Specials: Adzuki bean, Biserrula, Desmanthus, Leucaena, Messina, Sulla) matched to the crops they can inoculate.	-
Nogall	microbial	fungicide (not registered for vegetables)	-	<i>Agrobacterium radiobacter</i> var. <i>radiobacter</i> strain K1026	-	Preventative control of crown gall disease (<i>Rhizobium radiobacter</i> , <i>R. rhizogenes</i>) in stone fruit, nut trees, ornamentals	-	almond, pecan, rose, stone fruit, walnut (registered) + vegetable crops (non registered)	Bio-Care Technology Pty Ltd (Bio-Care); Becker Underwood Pty Ltd, NSW / BASF Australia Ltd, Victoria	powder	No	n/a	<i>Agrobacterium radiobacter</i> var. <i>radiobacter</i> strain K1026 at 1 x 10 ⁹ CFU/g peat	-
Onionmate	microbial	not registered	growth stimulant/ regulator	not registered	<i>Trichoderma atroviride</i>	not registered	root growth	onions	Agrimm	granular	Yes	n/a	not supplied	-
Plant of Health Root Extender	microbial	not registered	soil biology stimulant	not registered	VAMs (not specified) and other beneficial micro-organisms (not specified)	not registered	mycorrhizae	all mycorrhizal crops	Batphone Australia Pty Ltd, Queensland	powder	Yes	n/a	minimum 100,000 fungal spores/kg	-
Plant of Health Microbe Army Mix	microbial	not registered	soil biology stimulant	not registered	blend of beneficial bacterial strains and other microbes (not specified)	not registered	enhanced fertiliser uptake, soil health	all crops	Batphone Australia Pty Ltd, Queensland	powder	No	n/a	not supplied	-
Plant of Health Microbe Probiotic (MPB-1)	microbial	not registered	soil biology stimulant	not registered	lactic acid bacteria, yeast, phototropic bacteria (not specified)	not registered	enhanced fertiliser uptake, soil health	all crops	Batphone Australia Pty Ltd, Queensland	liquid	No	-	not supplied	https://www.batphone.com.au/images/articles/Testimonials/BelleardinaofPlantAssistMPB-1.pdf
Plantmate Granular Platform	microbial	not registered	growth stimulant/ regulator	not registered	<i>Trichoderma harzianum</i>	not registered	crop health	all crops	Agrimm	granular	Yes	n/a	<i>Trichoderma harzianum</i> 1 x 10 ⁶ CFU/g	-
Plantmate Platform	microbial	not registered	crop nutrition	not registered	5 species mycorrhizal fungi and a range of <i>Trichoderma</i> and bacterial species (no detailed info given)	not registered	root system	all crops	Nutri-Tech Solutions (NTS)	granular	Yes	n/a	not supplied	-
Qalcova active /Entrust Organic	microbial	insecticide	-	Spinosad (mixture of Spinosyn A and Spinosyn D in an approximate ratio of 17 to 3). Spinosad is a fermentation product of <i>Saccharopolyspora spinosa</i> .	-	control of range of insect pests (incl. diamondback moth, thrips, leaf miners)	-	vegetable crops , fruit crops, herbs, ornamentals and forestry	Corteva Agriscience Australia Pty Ltd, New South Wales	liquid	Yes	8.0 - 9.5 (1% pH electrode)	Spinosad at 240 g/L: spinosad (spinosyn A, spinosyn D) 22.54%, propylene glycol >=10.0 - < 20.0%, polyethoxylated dodecyl alcohol >= 1.0 - < 3.0%, spinosyn B >=0.25 - < 1.0%.	-
Reefsaver Classic	microbial	not registered	soil biology stimulant	not registered	Microbial inoculum: <i>Kocuria rosea</i> , <i>Bacillus megaterium</i> , <i>Azospirillum brasilense</i> , <i>Arthrobacter crystallopoietes</i> , <i>Bacillus simplex</i> .	not registered	Pre-plant soil conditioner/fertiliser supplement to stimulate beneficial microbial activity in the root zone and biological processes.	all crops	IAO Pty Ltd, Queensland	powder	Yes	4.5 - 7.5	Bacterial inoculum (total concentration 3.25 x 10 ⁸ CFU/ml): <i>Kocuria rosea</i> , <i>Bacillus megaterium</i> , <i>Azospirillum brasilense</i> , <i>Arthrobacter crystallopoietes</i> , <i>Bacillus simplex</i> . Inert carrier	https://reefsaver.com.au/results/
Revitalize	microbial	not registered	soil biology stimulant	not registered	several species of beneficial bacteria and fungi	not registered	enhanced fertiliser uptake, soil health	all vegetable crops + others	AgroBest Australia Pty Ltd, Queensland	liquid	Yes	3.8	Total of 10 ⁹ CFU/ml: <i>Stutzeri</i> spp., <i>Pseudomonas</i> spp., <i>Bacillus</i> spp., <i>Streptomyces cellulosae</i> , <i>Azotobacter</i> spp., <i>Azospirillum brasilense</i> , <i>Polyangium cellulosum</i> , <i>Yarrowia lipolytica</i>	-
Rhizomax	microbial	not registered	growth stimulant/ regulator	not registered	<i>Bacillus amyloliquefaciens</i>	not registered	crop health	all crops	Novum Lifesciences, Queensland	liquid	Yes	4.5 - 8.5	1 x 10 ⁹ CFU/ml	-
RhizoVital 42	microbial	not registered	stress resistance	not registered	<i>Bacillus amyloliquefaciens</i> FZB 43	not registered	root system, disease resistance	all crops	AbiTEP GmbH, Germany	liquid	No	n/a	<i>Bacillus amyloliquefaciens</i> FZB42 2.5 x 10 ¹⁰ CFU/ml	http://www.ccp.com.au/
Root Guard	microbial	not registered	soil biology stimulant	not registered	fungus species: <i>Arthrobotrys conoides</i> , <i>Purpureocillium lilacinus</i> , <i>Pochonia chlamydosporium</i>	not registered	soil fungi	all crops	Nutri-Tech Solutions (NTS)	powder	Yes	n/a	not supplied	-
Rootmate	microbial	not registered	growth stimulant/ regulator	not registered	<i>Trichoderma harzianum</i>	not registered	crop health	all crops	Agrimm	granular	No	n/a	not supplied	-
Serenade Opti	microbial	fungicide	-	<i>Bacillus amyloliquefaciens</i> strain QST 713	-	Botrytis, bacterial spot	-	registered for grapes, strawberries, tomatoes , chillies , capsicums , brassicas , vegetables , avocado , tropical fruit crops.	Bayer CropScience	granular	Yes	4.5 - 8.5	<i>Bacillus amyloliquefaciens</i> strain QST 713 1.3x10 ¹⁰ CFU/g	trials undertaken by manufacturer on bunch rot in grapes (high level results available on APVMA website)

Biological Products Database - by Product Source and Trade Name - April 2023

Trade Name	Source	Registered Product Type (APVMA Registered)	Product type Has been used as / for (not registered)	Active Ingredient(s) (APVMA Registered Products)	Ingredient(s) Main ingredient(s) of non registered products	Registered Use (APVMA Registered)	Use Has been used as / for (not registered)2	Crop	Manufacturer	Formulation	Australian Certified Organic	pH	Analysis	Trial Information
Serenade Prime	microbial	fungicide	-	<i>Bacillus amyloliquefaciens</i> strain QST 713 (1.34%)	-	rhizoctonia, black scurf, pineapple disease	-	registered as biofungicide for potatoes , sugarcane and bananas. Soil ameliorant for vegetables , tree crops, row crops, berries, other small fruits.	Bayer CropScience	liquid	Yes	4.5 - 8.5	<i>Bacillus amyloliquefaciens</i> strain QST 713 1.3x10 ¹² CFU/g	https://www.crop.bayer.com.au/products/bayer-biologics/serenade-soil-activ#tab-3
Serenade Soil Activ	microbial	fungicide (pending registration)	-	<i>Bacillus amyloliquefaciens</i> strain QST 713	-	Soil-borne diseases (rhizoctonia root rot, black scurf...)	-	registration pending as biofungicide. Soil ameliorant (nutrient uptake) for vegetables and other horticultural crops	Bayer CropScience	liquid	Pending	-	<i>Bacillus amyloliquefaciens</i> QST 713 at no less than 1.0 10 ¹² CFU/L	https://www.crop.bayer.com.au/products/bayer-biologics/serenade-soil-activ#tab-4
Serifel Biofungicide	microbial	fungicide	-	Enzyme alpha-amylase (from <i>Bacillus amyloliquefaciens</i> strain MBI600, formerly named <i>Bacillus subtilis</i> strain MBI600)	-	Preventative control of <i>Botrytis cinerea</i> in grapes and strawberries + minor use permits for control of soil-borne and foliar pathogens in non-food nursery stocks	Preventative control of soilborne diseases (incl. Pythium damping off, Fusarium wilt, Verticillium wilt, Phytophthora root rot, Rhizoctonia root/crown rot, Sclerotinia stem rot) and foliar diseases (incl. anthracnose, powdery mildew, grey mould) in vegetable crops and others	horticultural crops (including grapes, strawberries, vegetables) + others	BASF Australia Ltd.	powder	Yes	n/a	Enzyme alpha-amylase from <i>Bacillus amyloliquefaciens</i> strain MBI600 at 110 g/kg (> 5.5 x 10 ¹⁰ CFU/g)	Trials undertaken by Eurofins in grape and strawberry (+ protected data of manufacturer with APVMA)
Sipcam Delfin WG biological insecticide	microbial	insecticide	-	<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i> strain SA-11	-	armyworm cabbage moth cabbage white butterfly <i>Helicoverpa armigera</i> light brown apple moth looper native budworm or bollworm painted vine moth pear looper soybean looper vine moth	-	amenity tree cereal grain forestry fruit general agricultural use herb non-agricultural area - general oilseed crop ornamental tobacco turf vegetable vine	Sipcam (Agricrop)	granular	No	n/a	<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i> strain SA-11. Concentration not given.	-
Squadron	microbial	not registered	growth stimulant/ regulator	not registered	<i>Pseudomonas fluorescens</i>	not registered	crop health	all crops	Novum Lifesciences, Queensland	liquid	Yes	4.5 - 8.5	1 x 10 ⁸ CFU/ml	-
Start Up Ultra	microbial	not registered	soil biology stimulant	not registered	Four species of VAMs (vesicular arbuscular mycorrhizae, not specified)	not registered	mycorrhizae	all mycorrhizal crops	MicrobeSmart Pty Ltd, South Australia	powder	No	n/a	not supplied	-
Sudo-Shield	microbial	not registered	stress resistance	not registered	<i>Pseudomonas fluorescens</i>	not registered	recovery from pathogen damage	all crops	Nutri-Tech Solutions (NTS)	granular	Yes	n/a	none provided	support in literature
Superzyme	microbial	not registered	soil biology stimulant	not registered	<i>Bacillus subtilis</i> , <i>Pseudomonas putida</i> , <i>Trichoderma koningii</i> and <i>Trichoderma harzianum</i> .	not registered	soil biology, crop health	all crops	Zadco (JH Biotech)	granular	Yes	n/a	<i>Bacillus subtilis</i> , <i>Pseudomonas putida</i> , <i>Trichoderma koningii</i> and <i>Trichoderma harzianum</i> , 2 x 10 ⁹ CFU/gram	-
Teknar 1200 SC	microbial	insecticide	-	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> serotype H14	-	Control of first to early fourth instar mosquito larvae (<i>Culicidae</i> family)	-	all crops - (stagnant and standing ponds, etc.)	Valent BioSciences Corporation, USA / Sumitomo Chemical Australia Pty Ltd, NSW	liquid	No	-	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> strain SA3A at minimum potency of 1200 ITU/mg (= 5.6% w/w)	-
Topmate	microbial	not registered	growth stimulant/ regulator	not registered	<i>Trichoderma harzianum</i>	not registered	crop health	all crops	Agrimm	granular	No	n/a	not supplied	-
Tri-D25	microbial	not registered	soil biology stimulant	not registered	<i>Trichoderma harzianum</i> and <i>Trichoderma koningii</i>	not registered	soil biology, crop health	all crops	Zadco (JH Biotech)	granular	Yes	n/a	<i>Trichoderma harzianum</i> and <i>Trichoderma koningii</i> , 5 x 10 ⁷ CFU/gram	-
Trich-a-soil	microbial	not registered	disease suppressant	not registered	spores of beneficial fungus <i>Trichoderma viride</i> (indigenous strain)	not registered	root system, fusarium resistance	turf, intensive horticulture	Metcalf BioControl, Tasmania	powder	Yes	n/a	<i>Trichoderma viride</i> (indigenous strain) at 5 x 10 ¹⁰ spores/g	-
Tricho-shield	microbial	not registered	growth stimulant/ regulator	not registered	<i>Trichoderma harzianum</i> , <i>T. lignorum</i> , <i>T. koningii</i>	not registered	crop health	all crops	Nutri-Tech Solutions (NTS)	granular	Yes	n/a	not supplied	-
Trichomight	microbial	not registered	stress resistance	not registered	<i>Trichoderma</i> spp.	not registered	crop health, stress tolerance	all crops	Novum Lifesciences, Queensland	liquid	Yes	6.5 - 7	not supplied	-
TwinN	microbial	not registered	soil biology stimulant	not registered	rhizobacteria (not specified, possibly <i>Azospirillum</i> spp.?) fixing nitrogen and producing plant growth factors (e.g. auxins)	not registered	soil health, nutrient uptake	all vegetable crops + others	Mapleton Agri Biotech Pty Ltd / Vanadis Bio Science Pty Ltd, Queensland	freeze dried	No	n/a	not supplied	https://www.mabiotec.com/crop-trials.php
Vectolex	microbial	insecticide	-	Seed inoculation / foliar spray to form a natural physical barrier to diseases	-	Control of first to early fourth instar mosquito larvae (<i>Culex</i> spp., <i>Anopheles</i> spp.)	-	all crops - (stagnant and standing ponds, etc.)	Valent BioSciences Corporation, USA / Sumitomo Chemical Australia Pty Ltd, NSW	granular	No	n/a	<i>Bacillus sphaericus</i> strain 2362, strain ABTS-1743 fermentation solids and solubles - no numbers supplied	-
Velifer biological insecticide	microbial	insecticide	-	<i>Beauveria bassiana</i>	-	chrysanthemum aphid - suppression of green peach aphid - suppression greenhouse whitefly - suppression of onion thrips - suppression only rose aphid - suppression of silverleaf whitefly - suppression sweet potato whitefly - suppression of two spotted spider mite - suppression of western flower thrip - suppression	-	protected vegetables and ornamentals	BASF Australia Ltd.	liquid	No	NG	<i>Beauveria bassiana</i> strain PPRI 5339 >8 x 10 ⁹ CFU/ml	-
VIVUS Armigen biological insecticide	microbial	insecticide	-	Nuclear polyhedrosis virus of <i>Helicoverpa armigera</i>	-	<i>Helicoverpa</i> spp.	-	berryfruit (all) brassica vegetables (all) celery cereal grains (all) chickpeas cotton cucurbits fruiting vegetables lucerne (alfalfa) oilseeds (all) ornamental flowers and plants (all) pome fruit (all) potatoes pulses (all) sorghum sweetcorn	AgBiTech Pty Ltd	liquid	Yes	n/a	<i>Helicoverpa armigera</i> virus 7.5 x 10 ⁹ POB/mL	-
VIVUS Max biological insecticide	microbial	insecticide	-	Nuclear polyhedrosis virus of <i>Helicoverpa armigera</i>	-	<i>Helicoverpa armigera</i> <i>Helicoverpa punctigera</i>	-	berryfruit (all) brassica vegetables (all) celery cereal grains (all) chickpeas cotton cucurbits fruiting vegetables lucerne (alfalfa) oilseeds (all) ornamental flowers and plants (all) pome fruit (all) potatoes pulses (all) sorghum sweetcorn	AgBiTech Pty Ltd	liquid	Yes	n/a	<i>Helicoverpa armigera</i> virus 5.0 x 10 ⁹ POB/mL	-
Xentari WG BTA biological insecticide water dispersible granule	microbial	insecticide	-	<i>Bacillus thuringiensis</i> subsp. <i>aizawai</i>	-	cabbage centre grub cabbage cluster caterpillar cabbage moth cabbage white butterfly	-	brassica spp. or cole crop broccoli brussels sprouts cabbage cauliflower	Sumitomo Chemical Australia Pty Ltd	granular	Yes	n/a	<i>Bacillus thuringiensis</i> subsp. <i>aizawai</i> . Concentration not given.	Trials undertaken by manufacturer
Costar WG biological insecticide	microbial	insecticide	-	<i>Bacillus thuringiensis</i> subspecies <i>kurstaki</i> strain SA-12	-	cotton budworm or bollworm native budworm or bollworm	-	chickpea cotton cotton - pre-squaring	Certis U.S.A. L.L.C.	granular	No	n/a	<i>Bacillus thuringiensis</i> Berliner subsp. <i>aizawai</i> strain GC-91 concentration not given.	-
Digester	microbial	not registered	soil biology stimulant	not registered	Fermentation extract (<i>Pseudomonas putida</i>) and plant nutrients	not registered	Breakdown organic matter	all crops	BioStart	liquid	no	4	from label - bacteriocins, enzymes, signal molecules and secondary metabolites from the fermentation of beneficial bacteria; from manufacturer - Manganese, zinc, potassium, boron, phosphorous, nitrogen, amino acids	https://biostart.com.au/wp-content/uploads/sites/4/2022/10/BIO5-179-Digester-Technical-Sheet-Two-Page_web.pdf
EndoFuse	microbial	not registered	soil biology stimulant	not registered	4 Endomycorrhizal fungi + 91.27% Inert ingredients (carrier)	not registered	mycorrhizae	all broadacre mycorrhizal crops	Sumitomo Chemical Australia Pty Ltd	liquid	No	n/a	<i>Glomus intraradices</i> , <i>Glomus mosseae</i> , <i>Glomus aggregatum</i> , <i>Glomus etunicatum</i> all at 5625 propagules/ml, Humic acid from leanoardite 15%, Inert ingredients 91.27%	https://sumitomo-chem.com.au/sites/default/files/literature/endofuse_intro_and_trial_data_april_2020_lower_v111.pdf

Biological Products Database - by Product Source and Trade Name - April 2023

Trade Name	Source	Registered Product Type (APVMA Registered)	Product type Has been used as / for (not registered)	Ingredient(s)		Registered Use (APVMA Registered Products)	Use Has been used as / for (not registered)2	Crop	Manufacturer	Formulation	Australian Certified Organic	pH	Analysis	Trial Information
				Active Ingredient(s) (APVMA Registered Products)	Main ingredient(s) of non registered products									
Foliacin	microbial	not registered	stress resistance	not registered	Fermentation extract and plant nutrients	not registered	Foliar health	all crops	BioStart	liquid	no	4	from label - enzymes, microbial signalling molecules, bacteriocins and secondary metabolites from the fermentation of beneficial bacteria and yeast; from manufacturer - Manganese, zinc, potassium, phosphorous, nitrogen, amino acids	https://hiostart.com.au/wp-content/uploads/sites/4/2020/12/34072-Foliacin-Brochure-Aust-2018.pdf
GO Isolates	microbial	not registered	soil biology stimulant	not registered	humic acids, <i>Bacillus amyloliquefaciens</i> , <i>Bacillus subtilis</i> .	not registered	out-competing soil-borne pathogens	all crops	BioFlora, Queensland	liquid	Yes	n/a	not supplied	-
Intervene	microbial	fungicide (not registered for vegetables)	-	not registered	Polyoxin D zinc salt. Polyoxin D is a fermentation product of <i>Streptomyces cacaoi</i> subsp. <i>asoensis</i> . The zinc salt of Polyoxin D may be classified as synthetic because of an additional purification step.	control of grey mould (<i>Botrytis cinerea</i>), powdery mildew, Rhizopus fruit rot	-	grapes, berries, apples; potentially other horticultural crops incl. vegetables in future	Nufarm Australia Ltd, Victoria	granular	No	7.5 (1% solution, 23.2 °C)	Polyoxin D zinc salt at 113 g/kg	-
Lettucemate	microbial	not registered	growth stimulant/ regulator	not registered	<i>Trichoderma atroviride</i>	not registered	crop health	lettuce	Agrimm	powder	Yes	4.5	<i>Trichoderma atroviride</i> 5 x 10 ⁸ CFU/g	-
MeliorAdapt	microbial	not registered	soil biology stimulant	not registered	<i>Bacillus amyloliquefaciens</i> , <i>Streptomyces</i> sp., <i>Trichoderma harzianum</i> .	not registered	help accelerate breakdown of mulches, crop residues	horticulture crops	New Edge Microbials Pty Ltd, NSW	liquid	no	6.9	not supplied	-
Mycogel	microbial	not registered	growth stimulant/ regulator	not registered	mycorrhizal fungi (<i>Rhizophagus irregularis</i>)	not registered	soil health, nutrient uptake	most crops	Kimitec	liquid gel	Yes	n/a	<i>Rhizophagus irregularis</i> in sterile gel; 50,000 CFU/mL	https://sustainablefarming.com.au/trials-database/
Mycorrhin	microbial	not registered	soil biology stimulant	not registered	Fermentation extract (<i>Pseudomonas putida</i>) and plant nutrients	not registered	Root growth and health	all crops	BioStart	liquid	no	4	not specifically listed but manufacturer advises contains - Manganese, zinc, potassium, boron, phosphorous, nitrogen, amino acids	https://hiostart.com.au/mycorrhin/
Nucleon Liquid Fertiliser Enzyme Additive	microbial	not registered	growth stimulant/ regulator	not registered	enzymes - lipase, mannanase	-	enhances nutrient availability to soil microbes and plant roots resulting in improvements in soil and plant health, growth and yield.	all crops	Elemental Enzymes	liquid	no	5.0 - 10.0	Lipase 750mU/mL, Mannanase 350U/mL	https://sustainablefarming.com.au/product/nucleon/
Plantmate Drench	microbial	not registered	growth stimulant/ regulator	not registered	<i>Trichoderma harzianum</i>	not registered	crop health	all crops	Agrimm	powder	Yes	4.5	<i>Trichoderma harzianum</i> 1 x 10 ⁸ CFU/g	-
Plantmate Foliar	microbial	not registered	growth stimulant/ regulator	not registered	<i>Trichoderma atroviride</i>	not registered	crop health	all crops	Agrimm	powder	Yes	4.5	<i>Trichoderma atroviride</i> 1 x 10 ⁹ CFU/g	-
Sabel X Canola	microbial	not registered	growth stimulant/ regulator	not registered	endophytic <i>Trichoderma</i> spp.	not registered	yield, crop health, soil health	canola	Sustainable Farming Solutions	dry seed treatment	Yes	6-7	<i>Trichoderma</i> spp. 5 x 10 ⁷ CFU/g	https://sustainablefarming.com.au/trials-database/
Sabel-X Cereal	microbial	not registered	growth stimulant/ regulator	not registered	endophytic <i>Trichoderma</i> spp.	not registered	yield, crop health, soil health	wheat barley oats rye spelt triticale	Sustainable Farming Solutions	dry seed treatment	Yes	6-7	<i>Trichoderma</i> spp. 5 x 10 ⁷ CFU/g	https://sustainablefarming.com.au/trials-database/
Sabel-X Corn	microbial	not registered	growth stimulant/ regulator	not registered	endophytic <i>Trichoderma</i> spp.	not registered	yield, crop health, soil health	field corn popcorn sweetcorn sunflowers	Sustainable Farming Solutions	dry seed treatment	Yes	6-7	<i>Trichoderma</i> spp. 7 x 10 ⁷ CFU/g	https://sustainablefarming.com.au/trials-database/
Sabel-X Hort	microbial	not registered	growth stimulant/ regulator	not registered	endophytic <i>Trichoderma</i> spp.	not registered	yield, crop health, soil health	vegetables	Sustainable Farming Solutions	soluble powder	Yes	6-7	<i>Trichoderma</i> spp. 7 x 10 ⁷ CFU/g	https://sustainablefarming.com.au/trials-database/
Synergy	microbial	not registered	soil biology stimulant	not registered	<i>Bacillus subtilis</i> , magnesium	not registered	nutrient availability, soil biology	all crops	Seawins	powder	SXC certified	5.5 - 8.5	<i>Bacillus subtilis</i> (1.0-1.5) x 10 ¹¹ CFU/g, magnesium 13.5%, calcium 0.2%, green seaweed polysaccharide 1%, alginate acid 0.13%	-
Tri-Culture	microbial	not registered	growth stimulant/ regulator	not registered	<i>Bacillus licheniformis</i> , <i>Bacillus methylotrophicus</i> , <i>Bacillus subtilis</i>	not registered	crop health	all crops	SLTEC	liquid	No	n/a	<i>Bacillus licheniformis</i> 1 x 10 ⁸ CFU/ml, <i>Bacillus methylotrophicus</i> 2 x 10 ⁸ CFU/ml, <i>Bacillus subtilis</i> 2 x 10 ⁸ CFU/ml, water based culture medium 80%	-
Vectobac WG	microbial	insecticide	-	not registered	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> strain AM65-52	common banded mosquito common Australian anopheline <i>Culex australicus</i> saltmarsh mosquito saltwater culex brown house mosquito Dengue vectors including: <i>Aedes aegypti</i> and <i>Aedes albopictus</i>	-	all crops	Sumitomo Chemical Australia Pty Ltd	granular	Yes	n/a	<i>Bacillus thuringiensis</i> subsp. <i>israelensis</i> strain AM65-52 Minimum Potency 3000 ITU/mg	-
Activave	plant extract	not registered	growth stimulant/ regulator	not registered	plant extracts (no further information given)	not registered	crop health	all crops	Valagro	liquid	No	6.4	Nitrogen 3%, Potassium 5.8%, Iron 0.5% Zinc 0.08%, Organic carbon (soluble in water) 12%	-
Aloe-Tech	plant extract	not registered	growth stimulant/ regulator	not registered	gibberellins, indole acetic acid, polysaccharides, aloins, saponins, B vitamins	not registered	crop health	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	3.7 to 4.5	Whole leaf <i>Aloe vera</i> extract 100%	-
Battallon	plant extract	not registered	growth stimulant/ regulator	not registered	proprietary plant extracts; fulvic acid	not registered	Increasing fruit size and yield	all fruiting crops	Kimitec	liquid	Yes	7-9	46.6% fulvic acids , 2.5% N w/v, 7.8% K w/v	https://sustainablefarming.com.au/trials-database/
Benefit PZ	plant extract	not registered	growth stimulant/ regulator	not registered	plant extracts (no further information given)	not registered	crop health, stress tolerance	all crops	Valagro	liquid	No	6.8	Nitrogen 4%, Potassium 6.6%, Organic carbon (soluble in water) 10%	-
BioGarlic	plant extract	not registered	pest deterrent	not registered	garlic oil	not registered	insect pests	all crops	Zadco (JH Biotech)	liquid	Yes	n/a	garlic oil 10%, water 90%	-
Bioweed Organic	plant extract	herbicide	-	not registered	Pine oil (not specified)	Control of wide range of weeds, see label	-	orchards, vineyards and others, see label	GreenPro Solutions Pty Ltd, Queensland	liquid	Yes	7	Pine oil 680 g/L	Protected trial (efficacy and safety) data with APVMA
Bombardier	plant extract	not registered	stress resistance	not registered	Proprietary plant extracts	not registered	aid in adverse conditions: heat, cold, frost stress; soil constraints; disease pressure	All crops	Kimitec	liquid	Yes	5.5-7.5	29.6% fulvic acid, 16.6% free amino acids, 7.9% saccharides	https://sustainablefarming.com.au/trials-database/
Bombardier Sugar	plant extract	not registered	growth stimulant/ regulator	not registered	Proprietary plant extracts	not registered	promote sugar formation and ripening including colour in fruiting crops	all fruiting crops	Kimitec	liquid	Yes	5-7	38.3% oligosaccharides (w/v), 19.8% fulvic acid (w/v) 10.3% amino acids (w/v), 6.6% Total N (w/v)	https://sustainablefarming.com.au/trials-database/
Eco-Oil Hippo (Commercial)	plant extract	insecticide	-	not registered	Emulsifiable botanical oil	acaricide (carmine mite, two-spotted spider mite, insecticide (aphids, whitefly, scale, mealy bug); adjuvant (improves wetting and sticking of sprays insecticides, fungicides, foliar fertilisers)	-	horticultural crops , see label	Organic Crop Protectants Pty Ltd, New South Wales	liquid	Yes	-	Emulsifiable botanical oils 850 g/L (oils not specified)	https://ocn.com.au/wp-content/uploads/2014/08/OC254_Eco-Oil+Comm+Flyer_FA_1R.pdf
Fly Bye	plant extract	not registered	pest deterrent	not registered	4-(p-hydroxyphenyl)-2-butanone, 4-(p-hydroxyphenyl)-2-butanone acetate	not registered	fruit fly	fruit fly susceptible crops	Nutri-Tech Solutions (NTS)	liquid	Yes	n/a	4-(p-hydroxyphenyl)-2-butanone 0.5g/L, 4-(p-hydroxyphenyl)-2-butanone acetate 0.25g/L	-
GC-3	plant extract	not registered	disease suppressant	not registered	cottonseed oil, corn oil, garlic extract, oleic acid, lauric acid, sodium bicarbonate	not registered	powdery mildew	susceptible crops	Zadco (JH Biotech)	liquid	Yes	n/a	Cottonseed oil 30%, corn oil 30%, garlic extract 23%, oleic acid 2%, lauric acid 1%, sodium bicarbonate 2%, water 12%	-
GC-Mite	plant extract	not registered	miticide	not registered	cottonseed oil, clove oil, garlic extract, oleic acid, lauric acid, sodium bicarbonate	not registered	control of mites and insects	all crops	Zadco (JH Biotech)	liquid	Yes	n/a	Cottonseed oil 40%, clove oil 5%, garlic extract 10%, oleic acid 2%, lauric acid 1%, sodium bicarbonate 28%, water 26%	-
GrowGreen Xtend Plant Oil Adjuvant	plant extract	wetting agent	-	not registered	Emulsified vegetable oil	addition to horticultural sprays to increase spray deposition and penetration, droplet spread and uptake on the target to assist spray drift control and rainfastness	-	all crops	GrowGreen Pty Ltd, Queensland	liquid	Yes	-	Emulsified vegetable oil 832 g/L (Blend of highly degummed canola oils blended with vitamins A & E)	-
Kendal	plant extract	not registered	growth stimulant/ regulator	not registered	plant extracts (no further information given)	not registered	crop health	all crops	Valagro	liquid	No	4.8	Nitrogen 3.5%, Potassium 12.9%, Organic carbon (soluble in water) 3%	-
Kendal Root	plant extract	not registered	growth stimulant/ regulator	not registered	plant extracts (no further information given)	not registered	root growth	all crops	Valagro	liquid	No	6.1	Nitrogen 9%, Potassium 7.5%	-

Biological Products Database - by Product Source and Trade Name - April 2023

Trade Name	Source	Registered Product Type (APVMA Registered)	Product type Has been used as / for (not registered)	Ingredient(s)		Registered Use (APVMA Registered)	Use Has been used as / for (not registered)2	Crop	Manufacturer	Formulation	Australian Certified Organic	pH	Analysis	Trial Information
				Active Ingredient(s) (APVMA Registered Products)	Main ingredient(s) of non registered products									
Megafol	plant extract	not registered	growth stimulant/ regulator	not registered	plant extracts (no further information given)	not registered	crop health, stress tolerance	all crops	Valagro	liquid	No	6.5	Nitrogen 3%, Potassium 6.6%, Organic carbon (soluble in water) 9%	-
Natural Wet	plant extract	not registered	wetting agent	not registered	saponin from <i>Yucca schidigera</i>	not registered	wetting	all crops	Zadco (JH Biotech)	liquid	Yes	n/a	Saponin 10%, Water 90%	-
Nutri-Stim saponins	plant extract	not registered	wetting agent	not registered	saponins	not registered	water tension	all crops	Nutri-Tech Solutions (NTS)	granular	Yes	n/a	Saponins 70%	-
Photon	plant extract	not registered	stress resistance	not registered	dicarboxylic acids	not registered	stress	all crops	Sipcam (Agricrop)	granular	No	7.5	500g/kg blend plant derived dicarboxylic acids	-
plantjuice	plant extract	not registered	growth stimulant/ regulator	not registered	algae extract (<i>Ulva</i> spp.)	not registered	crop health	all crops	Pacific Bio	liquid	No	11.5-12.5	auxins (IAA) 295 ng/g FW, 1.4% K, 2.6 g/L S, 2.2 g/L Na	-
PyGanic	plant extract	insecticide	-	pyrethrins	-	greenhouse thrips passion vine hopper macadamia lace bug diamondback moth pea aphids beet armyworm potato aphids fruitfly rutherghlen bug spiders	-	avocados brassicas capsicums chillies citrus eggplants grapes kiwifruits lettuces macadamias stone fruits strawberries tomatoes leafy vegetables legume vegetables	Sumitomo Chemical Australia Pty Ltd	liquid	Yes	n/a	13g/L Pyrethrins	https://www.sumitomo-chem.com.au/sites/default/files/literature/organic_brochure_2022_f.pdf
Radifarm	plant extract	not registered	growth stimulant/ regulator	not registered	plant extracts (no further information given)	not registered	root growth	all crops	Valagro	liquid	No	5.0	Nitrogen 3%, Potassium 8%, Zinc 0.10%, Organic carbon (soluble in water) 10%	-
Rhino High Tech	plant extract	not registered	crop nutrition	not registered	plant extracts	not registered	improving fruit formation, increasing fruit set, lengthening rachis (grapes)	berries grapes fruiting vegetables nuts citrus	Kimitec	liquid	No	n/a	2.9% NATCA, 3.2% TCA, 8.7% Free Amino acids, 1.9% Total N, 1.9% Organic N, 7.7% K	https://sustainablefarming.com.au/trials-database/
Sero-X	plant extract	pest deterrent	-	Extract of butterfly pea (<i>Clitoria ternatea</i>)	-	Suppression of diamondback moth in brassicas. Control/Suppression of green mirids, silver leaf white fly (Biotype B) and Heliothis in cotton. Reduction in formation of the microsclerotia of <i>Verticillium dahliae</i> in cotton	-	brassicas, cotton	Innovate AG Pty Ltd, New South Wales	liquid	No (SXC allowed input only)	-	<i>Clitoria ternatea</i> extract at 400 g/L. Extract contains different cyclic peptides (cyclotides).	https://innovate-ag.com.au/pests/2021/05/0-2021-Sero-X-Technical-Manual-Email-Version.pdf
Sweet	plant extract	not registered	growth stimulant/ regulator	not registered	plant extracts (no further information given)	not registered	ripening	all crops	Valagro	liquid	No	3.5	Calcium 7.2%, Magnesium 0.6%	-
Synertril Horti Botanical Oil Concentrate	plant extract	wetting agent	-	Emulsifiable botanical oil	-	Improves rainfastness, drift control, wetting and sticking, biological activity of sprays	-	all crops	Organic Crop Protectants Pty Ltd, New South Wales	liquid	Yes	-	Emulsifiable botanical oil 850 g/L (100% canola oil)	-
Timorex Gold	plant extract	fungicide	-	Tea tree oil (<i>Melaleuca alternifolia</i>)	-	Preventative control of foliar diseases (powdery mildew, Botrytis grey mould)	-	horticultural crops (capsicum, cucurbits, tomato - powdery mildew) and grapes (Botrytis grey mould, powdery mildew)	Stockton (Israel) Ltd, Israel / Syngenta Australia Pty Ltd, NSW	liquid	No	8.9 - 9.6	Tea tree oil (<i>Melaleuca alternifolia</i>) at 222 g/L (28% w/v), ethanol (4% w/v)	Trials undertaken by manufacturer (protected data with APVMA)
Vitazyme	plant extract	not registered	growth stimulant/ regulator	not registered	brassinosteroids and triconanol	not registered	stimulates root growth	all crops	Sustainable Farming Solutions	liquid	Yes	3.5-4.2	Highly active plant stimulants from fermentation process	https://sustainablefarming.com.au/trials-database/
Vitazyme ST (seed treatment)	plant extract	not registered	growth stimulant/ regulator	not registered	brassinosteroids and triconanol	not registered	vigour in seedlings and improved root development	all direct sown crops	Sustainable Farming Solutions	liquid	Yes	3.5-4.2	Highly active plant stimulants; fulvic & amino acids	https://sustainablefarming.com.au/trials-database/
Viva	plant extract	not registered	growth stimulant/ regulator	not registered	plant extracts, humic acid	not registered	soil biology	all crops	Valagro	liquid	No	6.2	Nitrogen 3%, Potassium 8%, Iron 0.02%, Organic carbon (soluble in water) 8%	-
Weed Zap	plant extract	not registered	herbicide	not registered	clove oil, cinnamon oil, cottonseed oil, oleic acid, lauric acid	not registered	weeds	all crops	Zadco (JH Biotech)	liquid	Yes	n/a	Clove oil 19%, Cinnamon oil 19%, Cottonseed oil 19%, oleic acid 19%, lauric acid 19%, inert ingredients: lactose and water 5%	-
Yieldon	plant extract	not registered	growth stimulant/ regulator	not registered	plant extracts (no further information given)	not registered	-	seed crops	Valagro	liquid	No	6.5	Nitrogen 3%, Potassium 2.5%, Molybdenum 0.2%, Manganese 0.5%, Zinc 0.5%, Organic carbon (soluble in water) 10%	-
Aminocal	seaweed extract	not registered	crop nutrition	not registered	amino acid chelated calcium	not registered	crop health	all crops	Seawins	liquid	SXC certified	6.24	calcium 17%, L-free amino acids, 11% total nitrogen (organic) 1.3%	-
Bio Kelp	seaweed extract	not registered	crop nutrition	not registered	kelp extract, potassium	not registered	crop health	all crops	SLTEC	liquid	No	8.5-9.5	20% Kelp, 3.2% K	-
BioMAX Kelp Powder	seaweed extract	not registered	soil biology stimulant	not registered	Soluble seaweed (<i>Ascophyllum nodosum</i>) extract powder	not registered	enhanced soil microbial activity, soil and plant health	vegetable crops (legumes, onions, carrots, potatoes) + others	LawrieCo Pty Ltd trading as LawrieCo, South Australia	powder	Yes	10 - 10.5 (at 20 °C, 200 g/L)	Ingredients expressed as w/w%: <i>Ascophyllum nodosum</i> extract > 93.5%, water < 6.5%. All %=w/w%; Nitrogen > 0.5%, Potassium (as oxides) > 12.4%, Potassium (as organic) > 1.7%, Sulphur 1.0 - 2.0%, Calcium 0.2 - 0.5%, Magnesium 0.2 - 0.6%, Boron 0.0075%, Iron 0.02%, Manganese 0.004%, Copper 0.001%, Zinc 0.005%, Carbon (organic) > 20%	-
Farm Saver liquid kelp	seaweed extract	not registered	growth stimulant/ regulator	not registered	three kelp species, <i>Laminaria</i> spp., <i>Sargassum</i> spp., <i>Ascophyllum nodosum</i> .	not registered	nutrition, stress	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	9.5-10.5	Potassium 1.5%, Iron 0.11%, Sulphur 0.11%, Calcium 450mg/L, Magnesium 170mg/L	-
FertiGold	seaweed extract	not registered	soil biology stimulant	not registered	green seaweed <i>Enteromorpha prolifera</i>	not registered	reduced plant stress, increased microbial activity, soil structure	all crops	Seawins	powder	SXC certified	5 - 7	Seaweed polysaccharides 45%, alginate acid 21%, nitrogen (N) 1%, potassium(K) 4.6%, calcium (Ca) 1.9%, iron (Fe) 0.13%, boron (B) 0.03%, organic matter 40%	-
HydraSea 50	seaweed extract	not registered	crop nutrition	not registered	seaweed extracts (<i>Ascophyllum nodosum</i>) containing macro + trace/micronutrients, proteins (enzymes, amino acids), carbohydrates, plant growth hormone-like compounds showing auxin- and cytokinin-like activity.	not registered	Foliar nutrition spray during the most vulnerable crop stages and/or during abiotic stress conditions to enhance nutrient uptake and root growth	vegetables, fruit/nut tree crops, grapes, cereals, cotton, sugarcane	BioAg Pty Ltd, New South Wales	liquid	Yes	8.5 - 10	100% seaweed extract (<i>Ascophyllum nodosum</i>). Nitrogen 0.33 - 0.55%, Phosphorus 0.006 - 0.01%, Potassium 7.5 - 9.5%, Sulphur 0.96 - 1.18%, Calcium 240 - 320 ppm, Sodium 0.7 - 1.5%, Magnesium 1,920 - 3040 ppm, Boron 95 - 320 ppm, Iron 48 - 320 ppm, Manganese 160 - 480 ppm, Copper 45 - 270 ppm, Zinc 48 - 160 ppm (%=w/w%)	https://www.bioag.com.au/download/hydrasea-50-trail-insert-download/
K-kelp	seaweed extract	not registered	crop nutrition	not registered	bull kelp	not registered	nutrition	all crops	Omnia	liquid	Yes	>9	Potassium 3.7% wt/vol, Sulphur 1.3% wt/vol, Kelp extracts 9-10% wt/vol, amino acids, growth hormones	-
Liquid Kelp	seaweed extract	not registered	stress resistance	not registered	kelp extract	not registered	crop health, soil health	all crops	Eco Growth	liquid	Yes	n/a	not given	-
MC Cream	seaweed extract	not registered	growth stimulant/ regulator	not registered	<i>Ascophyllum nodosum</i> seaweed	not registered	crop health	all crops	Valagro	liquid	No	3.9	Manganese 1.5%, Zinc 0.5%	-
MC Extra	seaweed extract	not registered	growth stimulant/ regulator	not registered	<i>Ascophyllum nodosum</i> seaweed	not registered	crop health	all crops	Valagro	granular	No	9.2	Nitrogen 20%, Betains 0.2%, Mannitol 4%, Organic carbon (soluble in water) 20%	-
MC Set	seaweed extract	not registered	growth stimulant/ regulator	not registered	<i>Ascophyllum nodosum</i> seaweed	not registered	flowering	all crops	Valagro	liquid	No	8.5	Boron 0.50%, Zinc 1.5%	-
Nutri-Kelp	seaweed extract	not registered	crop nutrition	not registered	<i>Ascophyllum nodosum</i> (giberellins, cytokinins, auxins)	not registered	nutrition, soil biology, stress	all crops	Nutri-Tech Solutions (NTS)	granular	Yes	n/a	Nitrogen 1.17%, Phosphorus 0.23%, Potassium 19.12%, Sulphur 1.8%, Magnesium 0.37%, Calcium 0.34%, Silicon 679ppm, Iron 471ppm, Boron 135ppm, Zinc 38ppm, Manganese 37ppm, Molybdenum 2ppm, Cobalt 1ppm	-
Phylgreen 200	seaweed extract	not registered	growth stimulant/ regulator	not registered	<i>Ascophyllum nodosum</i> seaweed extract	Not Registered	Prevents Abiotic Stress	all crops	Rovensa ANZ (Tradecorp)	Liquid	Yes	5	100% seaweed extract (<i>Ascophyllum nodosum</i>).	-
Purakelp	seaweed extract	not registered	crop nutrition	not registered	bull kelp (<i>Durvillaea potatorum</i>)	not registered	-	all crops	Omnia	liquid	Yes	4	kelp extracts 9-10%	-
Relax	seaweed extract	not registered	growth stimulant/ regulator	not registered	kelp extract + cobalt	not registered	crop health/ stress tolerance	all crops	SLTEC	liquid	No	5.0- 7.0	10% kelp, 0.2% Cobalt, 4.3% P, 10.3%K, 0.1% S, 0.02% Mo	-
Sea Brown Powder	seaweed extract	not registered	soil biology stimulant	not registered	brown kelp (<i>Laminaria [Saccharina] japonica</i>)	not registered	reduced plant stress, increased microbial activity	all crops	Seawins	powder	SXC certified	8 - 10	Nitrogen (N) 1.5%, phosphorus (P) 1.5%, potassium (K) 16.6%, iron (Fe), 0.26%, boron (B) 0.19%, alginate acid 15%, organic matter 50%	-
SeaChange Liquid Kelp	seaweed extract	not registered	crop nutrition	not registered	bull kelp	not registered	crop health	all crops	Nutri-Tech Solutions (NTS)	liquid	Yes	3.6 - 4.6	Potassium 1.39%, Calcium 0.09%, Iodine 22mg/L	-



Biological Products Database - by Product Source and Trade Name - April 2023

Trade Name	Source	Registered Product Type (APVMA Registered)	Product type		Ingredient(s)		Use		Crop	Manufacturer	Formulation	Australian Certified Organic	pH	Analysis	Trial Information
			Has been used as / for (not registered)	Registered Use (APVMA Registered)	Active Ingredient(s) (APVMA Registered Products)	Main ingredient(s) of non registered products	Registered Use (APVMA Registered)	Has been used as / for (not registered)2							
Seanergy	seaweed extract	not registered	crop nutrition	not registered	(Tasmanian) kelp extract	not registered	crop health, stress tolerance	all crops	Sipcam (Agricrop)	liquid	No	3.2 to 3.8	Nitrogen 1%, Phosphorous 0.95%, Potassium 3.5%, Sulphur 7.5%, Calcium 0.6%, Magnesium 0.6%, Iron 200ppm, Manganese 6ppm, Zinc 18ppm, Copper 6ppm, Betaine 2%	-	
Stress Buster	seaweed extract	not registered	stress resistance	not registered	polysaccharides, polyglutamic acid, osmolytes	not registered	crop health	all crops	Seawins	liquid	SXC certified	4-6	seaweed polysaccharides 10%, alginic acid 3%, fulvic acid 5%, polyglutamic acid 0.5%, amino acid 1%, total organic matter 15-20%	-	
Super Kelp liquid	seaweed extract	not registered	crop nutrition	not registered	<i>Ascophyllum</i> sp & <i>Durvillaea</i> sp	not registered	reduces stress effects in crops	all crops	Sustainable Farming Solutions	liquid	Yes	4-4.5	Soluble K - 2%; Seaweed extract; alginic acid - 1.5%	https://sustainablefarming.com.au/trials/trials-database/	
Super Kelp powder	seaweed extract	not registered	crop nutrition	not registered	<i>Ascophyllum</i> sp	not registered	reduces stress effects in crops	all crops	Sustainable Farming Solutions	soluble powder	Yes	10-10.5	Alginic Acid 12-18%, N 1.5%, K 17-22%	https://sustainablefarming.com.au/trials/trials-database/	
Tri-Kelp	seaweed extract	not registered	crop nutrition	not registered	<i>Laminaria</i> , <i>Sargassum</i> , <i>Ascophyllum nodosum</i>	not registered	crop health	all crops	Nutri-Tech Solutions (NTS)	granular	Yes	n/a	Alginic acid 18%, Nitrogen 0.89%, Potassium 15%, Iron 1.07%, Sulphur 1.05%, Calcium 0.45%, Magnesium 0.17%, Silicone 445ppm, Manganese 92ppm, Zinc 48ppm, Boron 46ppm, Copper 34ppm, Cobalt 8ppm, Molybdenum 5ppm	-	
AminoPlus	seaweed/fish	not registered	crop nutrition	not registered	fish extract 50-100%, kelp extract 25-50%	not registered	nutrition	all crops	Omnia	liquid	Yes	4	N: 2.1% w/vol, Natural Amino Acids, Plant growth stimulants, Trace Elements, Chelating Agents.	-	
Eco Vital	seaweed/fish	not registered	crop nutrition	not registered	chelated fish extract, kelp, plant extracts	not registered	crop health, stress tolerance	all crops	Eco Growth	liquid	Yes	n/a	Nitrogen 2%, Phosphorous 0.6%, Potassium 0.4%, Calcium 0.5%, Magnesium 0.2%, Iron 0.07%, Zinc 750ppm, Manganese 704ppm, Copper 730ppm, Molybdenum 1ppm, Boron 34ppm, Cobalt 8ppm	-	

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